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SEPTEMBER 21, 1946

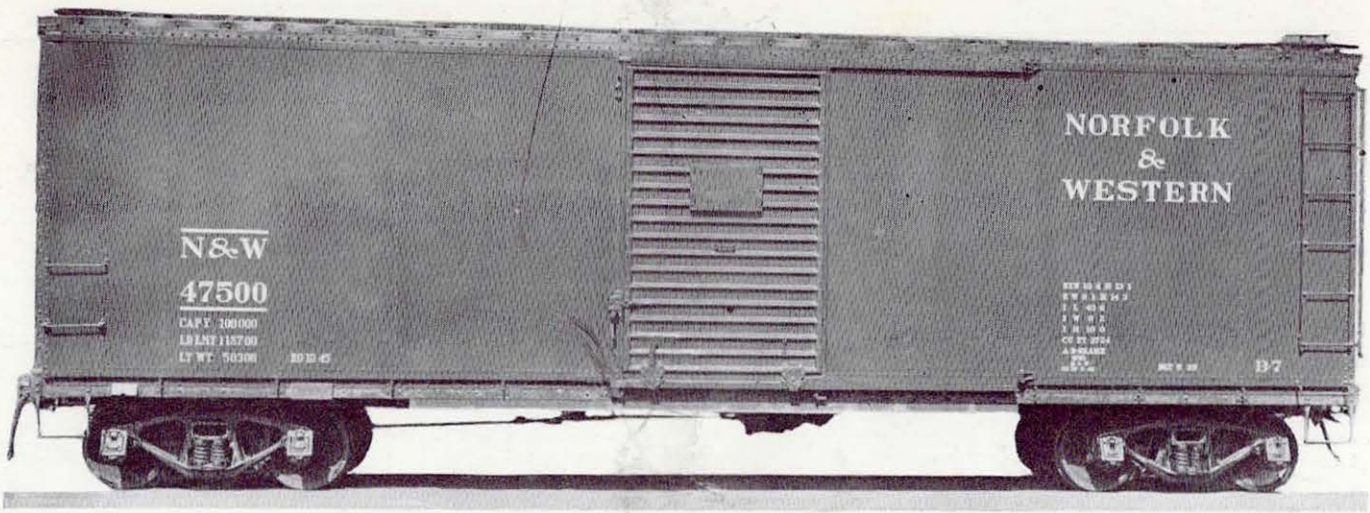
Railway Age

Founded in 1856

YOUNGSTOWN

STEEL SIDES **STEEL DOORS**

CAMEL FIXTURES



Utilized by

Norfolk and Western

In HEAVY REPAIRS to

500 CLASS B7 BOX CARS

YOUNGSTOWN STEEL DOOR COMPANY

Camel Sales Company
Cleveland Chicago

Camel Company Limited
New York Youngstown

UNIT BRAKE BEAMS
ARE STANDARD
ON THE ERIE ★

★ *The Erie is only one of the 62 major railroads and private car lines having more than 180,000 Unit Brake Beams in service or on order. One out of every four new freight cars for domestic service will roll on Unit-type trucks.*

UNIT TRUCK CORPORATION **NEW YORK**

We Don't Like "Quotas" Either

There are times when steel buyers must be on the verge of going berserk at the sound of the word "quota." We don't like quotas either . . .

But we have no choice, there just isn't enough steel to go around and we want to be fair with all of our customers.

We look forward to the time when *you*, the steel buyer, will tell *us* how much you will buy and we can strive to earn a large share of your tonnage.

In the meantime, while maintaining Inland quality and service at their usual high levels, we pride ourselves on an additional factor.

WE HAVE KEPT OUR WORD! . . . and, subject only to interferences beyond our control (strikes, etc.), we have made good. The commitments we have given our customers have justified their faith in INLAND as a RELIABLE SOURCE.

SELL YOUR SCRAP NOW!
More scrap is needed to make the steel so desperately needed by American industry.

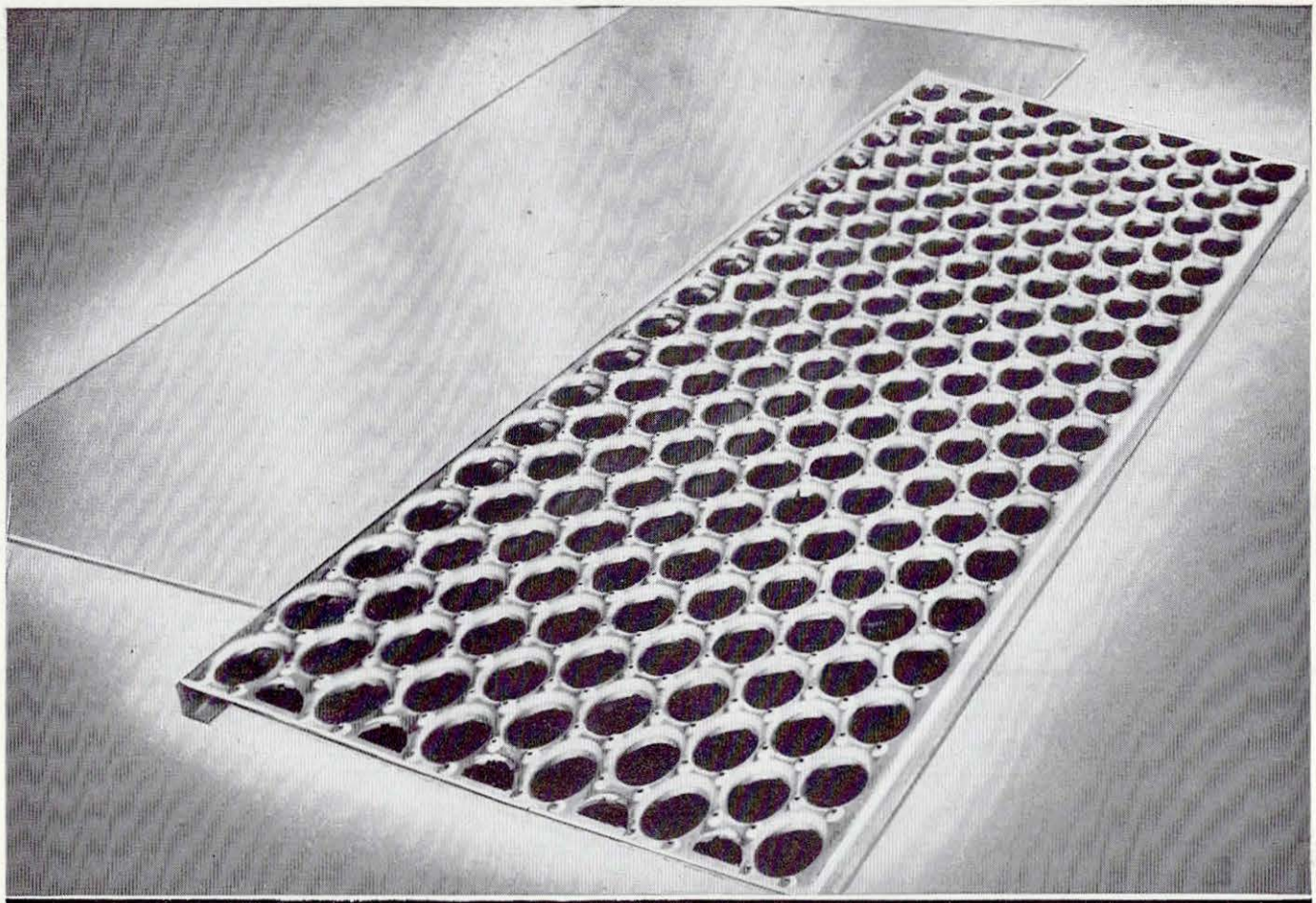
PRINCIPAL PRODUCTS: BARS • STRUCTURALS • PLATES
SHEETS • STRIP • TIN PLATE • FLOOR PLATE • PILING
REINFORCING BARS • RAILS • TRACK ACCESSORIES

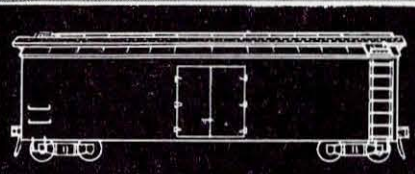
INLAND STEEL

● Inland Steel Company, 38 South Dearborn Street, Chicago 3, Illinois. Sales Offices: Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Paul, St. Louis.

COMBINING RESOURCES • RESEARCH • SKILL AND SERVICE TO PRODUCE THE BEST IN STEEL

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 121, No. 12.





STURDY ONE-PIECE CONSTRUCTION!

No welds, lock-joints, bolts or rivets—ingenious one-piece construction avoids precision work and time loss in fitting and matching application holes. *Runway has greater strength than metal from which it is formed.*

SPECIFY MORTON OPEN-GRIP RUNWAYS

For Surest Footing in Strongest Possible Metal Construction

Morton "Open-Grip" runways and brake steps are engineered for *safety,* strength, speed and ease of application, and low-cost upkeep. They're made of the strongest possible construction, as proved by the most rigid service tests. Made of heavy gauge rust-resistant metal, they're guaranteed for the lifetime of the car body.

Famous Kass safety buttons give *safest footing in all directions.* Self-clearing openings prevent collection of snow, ice, mud, or corrosive elements year 'round.

They're economical to install and thrifty in service. No special tools, welding or drilling required to apply. Nothing to work loose, warp, or splinter. Simple cup-and-bolt device clamps runway into permanent position.

Specify Morton "Open-Grip" Runways and Brake Steps for modern all-steel, aluminum, or reconditioned equipment—for freight cars, tank cars, stock cars, roofed hopper cars, or special equipment. Please write for full information.

MORTON MANUFACTURING COMPANY

5105 WEST LAKE STREET • CHICAGO 44, ILLINOIS

DISTRICT SALES OFFICES: NEW YORK • ST. LOUIS • ST. PAUL • WASHINGTON • SAN FRANCISCO • LOUISVILLE • MONTREAL

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How to Handle Lading

WITH KID GLOVES

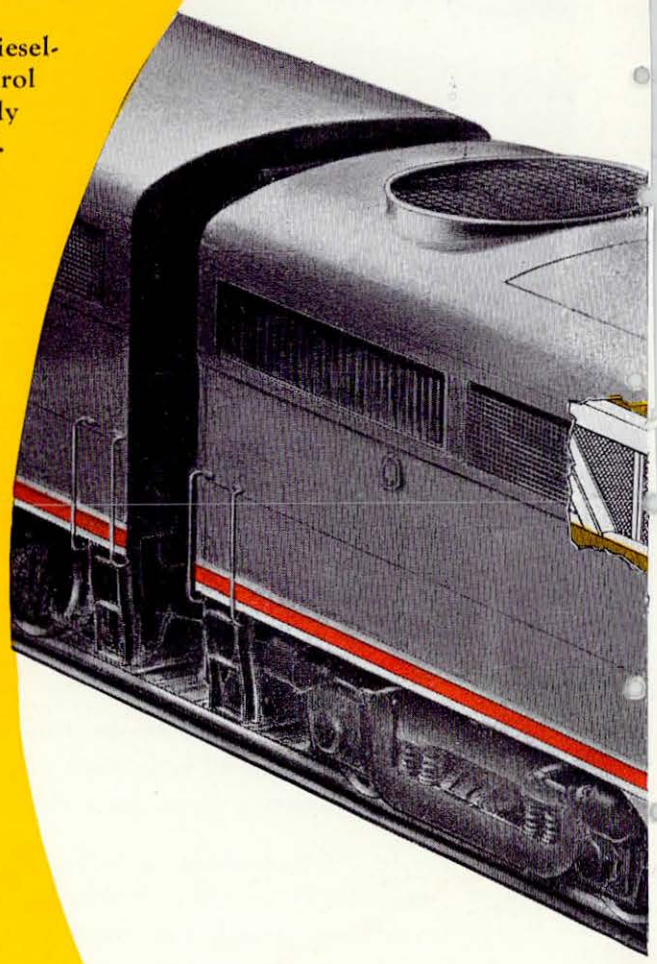
Built to increase railroad earning power, the new Alco-G.E. diesel-electric road locomotive has abundant power under precise control for every operating need: instant response at a fast, smooth, steady rate for acceleration, hitting a grade, or free running on the level. There are no "jack rabbit" starts with the "1500"—and no enforced waits while ponderous control equipment "winds up." Lading is handled literally with kid gloves, with a resulting reduction in damaged shipments and improvement in service to customers.

Keystone of this highly sensitive control system is the new amplidyne exciter, which makes possible the use of much smaller, quicker-acting relays, contactors, switches, and other control devices. Because this exciter amplifies current as much as 10,000 times, wattage of the control circuit is extremely low and the controls themselves extremely compact. And the speed of the amplidyne is unmatched in railroad service—less than one-tenth of a second elapses between engineer's signal and full response from the power plant.

Because of their unusual compactness, all the devices required in the cab can be located in accordance with their relative importance and frequency of use. Whether the engineer is turning on the headlight, notching up the throttle, or applying air, he has all the controls at his fingertips. Even the lever-operated windows can be raised or lowered more quickly.

But more important to the operation of the locomotive than all of this new equipment is the man behind the throttle. No detail has been overlooked that will increase his efficiency. Full modulation of defrosters and scientifically designed windshields provide maximum visibility. Specially developed seats—adjustable three ways—minimize fatigue. Ultra-violet, "black", light on the instrument panel eliminates glare and eyestrain. In this locomotive, the engineer has the best working conditions—and the best equipment with which to work.

The control system is only one of the many new features of the "1500". The turbosupercharged diesel engine, the railroad-type generator and traction motor, the power plant load regulator, the engine cooling system—all combine to insure smooth, safe operation at all times and at all speeds. This locomotive is *really built to increase railroad earning power!*



THE NEW

Built TO INCREASE

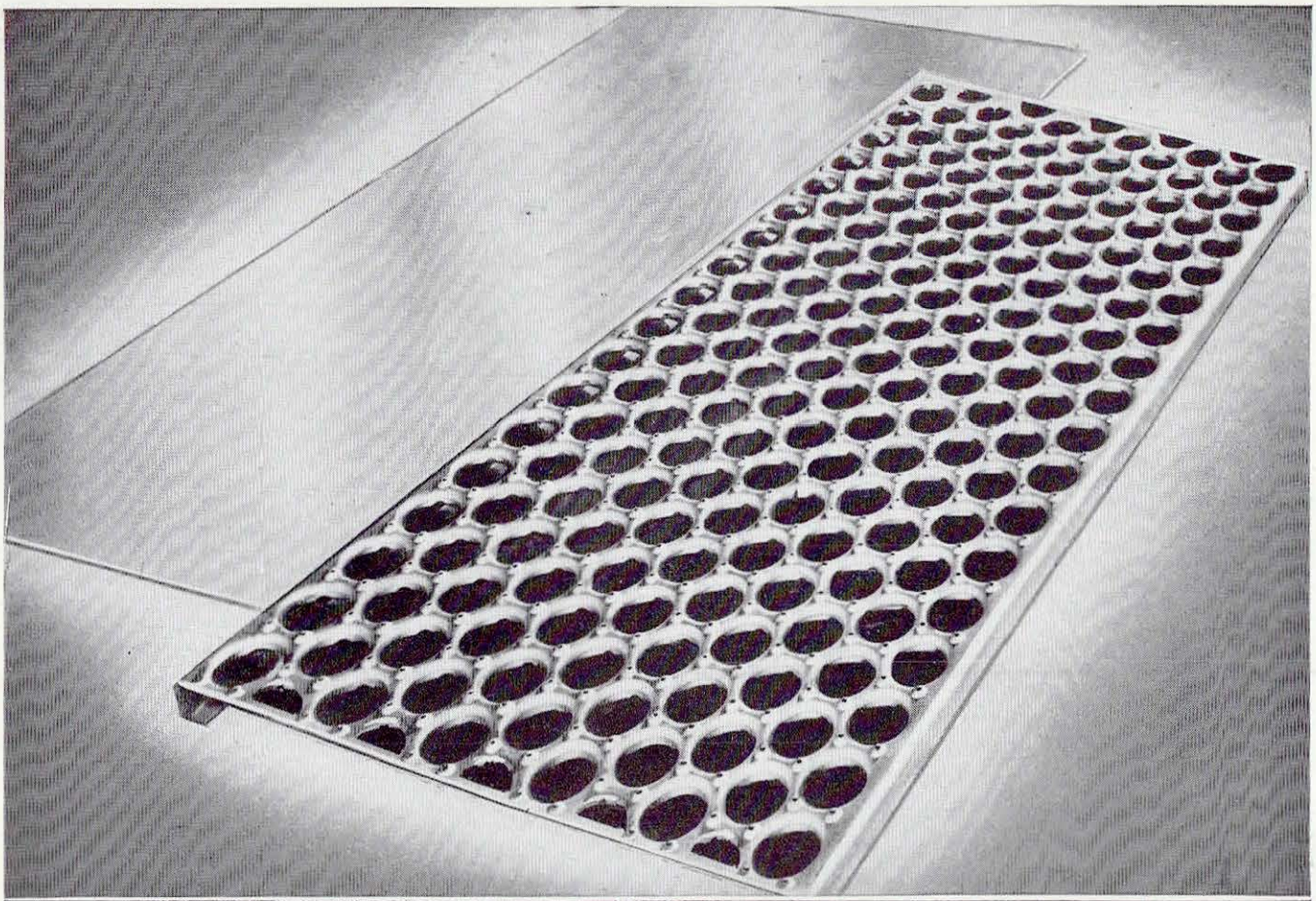
Alco GE

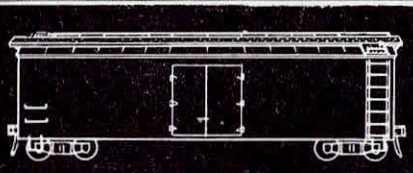
AMERICAN LOCOMOTIVE
AND
GENERAL ELECTRIC

118-172-9580

ALCO-G-E "1500"

RAILROAD EARNING POWER





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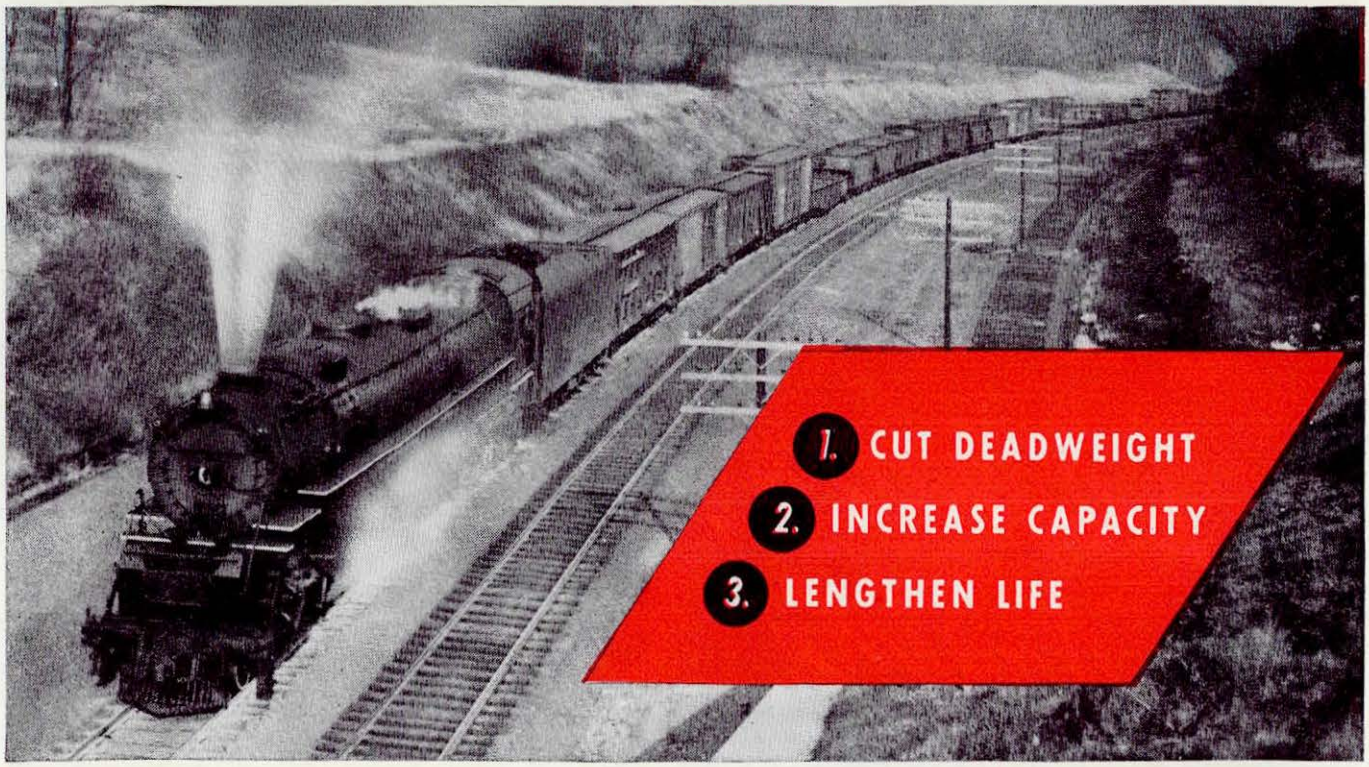
5105 WEST LAKE STREET • CHICAGO 44, ILLINOIS

DISTRICT SALES OFFICES: NEW YORK • ST. LOUIS • ST. PAUL • WASHINGTON • SAN FRANCISCO • LOUISVILLE • MONTREAL

THREE WAYS TO IMPROVE *Your Freight Cars*



—*with Republic* HIGH STRENGTH STEELS

With operating costs climbing and the margin between overhead and revenue growing narrower . . . with freight schedules calling for faster movement of traffic . . . it's high time to replace obsolete, cumbersome freight cars with new ones that are lighter in weight—that haul more payload—that last longer in service.

That's where Republic High Strength Steels can help you—

1. By Cutting Deadweight. A minimum yield point of 50,000 pounds per square inch combined with resistance to atmospheric corrosion permits you to use these steels in thinner structural sections. In this way deadweight can be reduced an average of 25% per car body—without any reduction in service life.

2. By Increasing Capacity. Where deadweight is the determining factor of car capacity, the weight saved through the use of these steels permits a proportionate increase in payload.

3. By Lengthening Life. These steels help keep cars out of repair shops and in service longer—because they are tough and strong and because they have more than double the corrosion-resistance of ordinary steels in railroad service. Thus, they cut maintenance and replacement costs.

That you may realize greatest benefits, Republic offers you THREE *different* High Strength Steels—Republic ALDECOR, Republic COR-TEN and Republic DOUBLE STRENGTH—in sheets, strip, plates and bars. And Republic metallurgists are ready to help you select the steel best suited to each particular need. Write us.

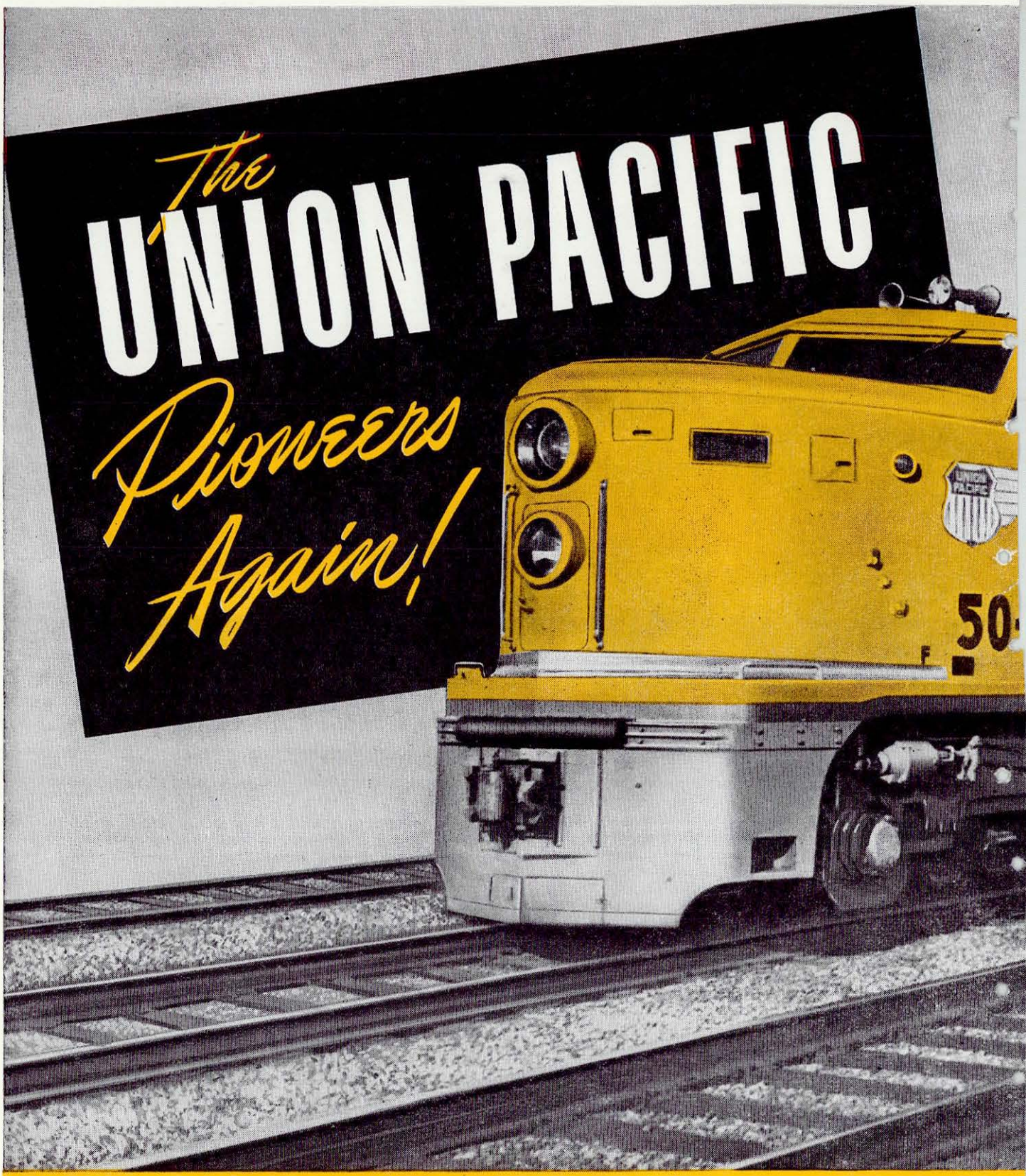
REPUBLIC STEEL CORPORATION
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, New York

Republic

HIGH STRENGTH STEELS

ALDECOR • COR-TEN • DOUBLE STRENGTH

Other Republic Products include Carbon, Alloy and Stainless Steels—Sheets—Plates—Pipe—Bolts, Nuts and Rivets—Boiler Tubes


The
UNION PACIFIC
Pioneers
Again!
50
SINCLAIR

Sponsor of the original STREAMLINERS, pioneer in many phases of improved service for the traveling public, the Union Pacific Railroad now fathers a new type of freight and passenger Diesel.

No. 50-M-1-2-3, a 6000-H.P. Fairbanks-Morse locomotive with opposed piston type engines, now pulls the Union Pacific's famed luxury trains.

This powerful locomotive adds one more milestone to the impressive record compiled by Union Pacific's fleet. It is significant that, in achieving this record, Sinclair lubricants have been used.

SINCLAIR GASCON GL

. . . Symbol of Dependability

When Diesel 50-M-1-2-3 first was placed in service, Union Pacific made sure of safe, dependable service by lubricating with SINCLAIR GASCON GL Diesel Oil. As with all the locomotives comprising Union Pacific's internationally known streamliners, GASCON GL today provides Diesel 50-M-1-2-3 with efficient lubrication for smooth, continuous overland performance.

GASCON GL has inherent solvent action. Its wear prevention qualities keep down maintenance and replacement outlays.

Railroad Lubricants

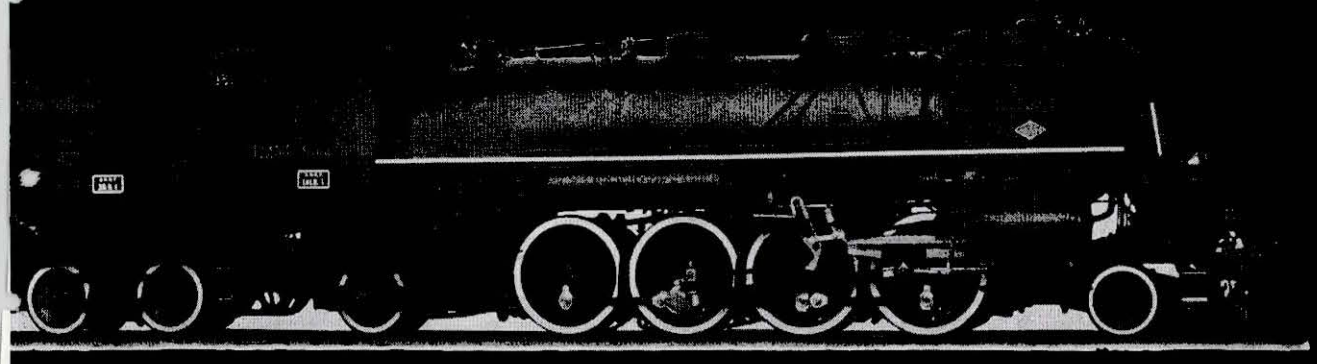
SINCLAIR REFINING COMPANY, *RAILWAY SALES*, NEW YORK • CHICAGO • ST. LOUIS • HOUSTON

700 first order
640 second order
1340 LIBERATION LOCOMOTIVES BUILT IN THE UNITED STATES AND CANADA FOR SOCIETE NATIONALE DES CHEMINS de fer FRANCAIS ARE EQUIPPED WITH NICHOLSON THERMIC SYPHONS (2 EACH) TO PROVIDE . . .

- MORE HEATING SURFACE
- MORE BOILER WATER CIRCULATION
- MORE ECONOMY IN FUEL AND MAINTENANCE
- MORE BOILER HORSEPOWER
- **MORE LOCOMOTIVE!**
- COMPLETE PROTECTION FROM BOILER EXPLOSION

NICHOLSON THERMIC SYPHONS ARE A PRODUCT OF

SYPHON LOCOMOTIVES ARE BETTER



The principal railroads in France have had a number of years' experience with Syphons in over 200 locomotives. Extensive applications were made after exhaustive tests under the jurisdiction of S. N. C. F. engineers of international standing and after observation in actual service over a long period of time. For some years, until interrupted by the war, they were rapidly installing Thermic Syphons as a standard application.

Locomotive Firebox Company

PHILADELPHIA CHICAGO MONTREAL

For Service and Economy . .

ALWAYS LOOK TO

"NATIONAL" PRODUCTS

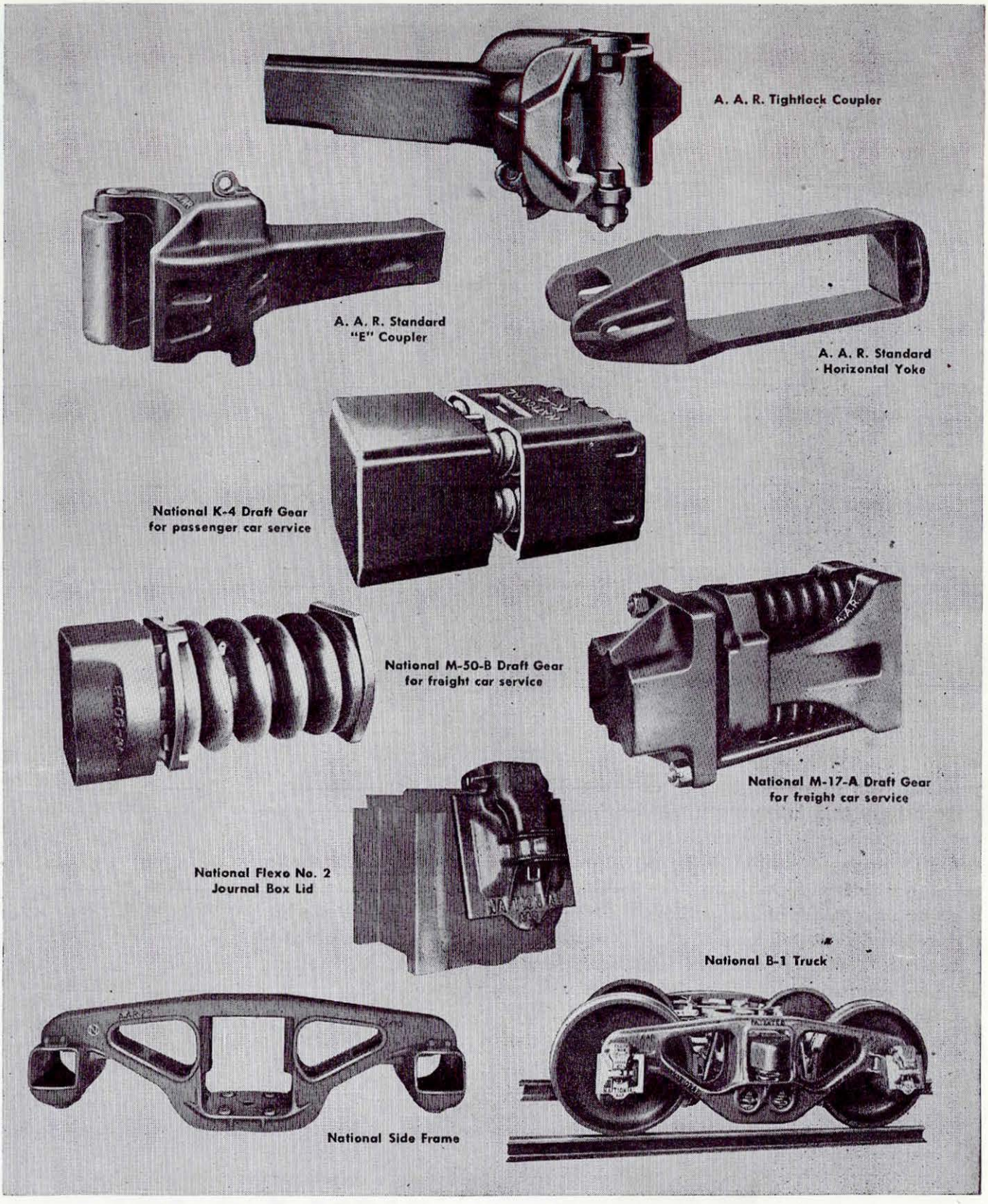
You can't go behind the record of the many years of successful performance of "National" freight and passenger car and locomotive equipment. The service factor is engineered and built into every finished product. The economy results from the successful protection to your cars and ladings . . . and from the minimum wear and long life that are "first" in every "National" design. You can always depend on "National".

M N & S Co

Est. 1868

NATIONAL

SALES OFFICES: **Cleveland, Chicago, New York, Philadelphia, Richmond,**

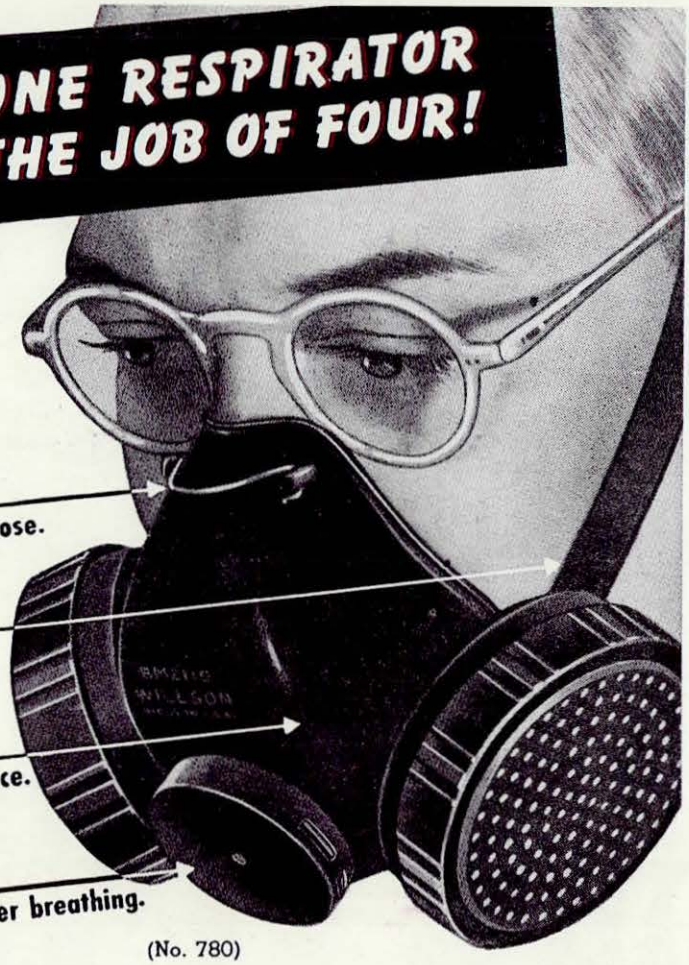

A. A. R. Tightlock Coupler
A. A. R. Standard "E" Coupler
A. A. R. Standard Horizontal Yoke
National K-4 Draft Gear for passenger car service
National M-50-B Draft Gear for freight car service
National M-17-A Draft Gear for freight car service
National Flexo No. 2 Journal Box Lid
National B-1 Truck
National Side Frame

MALLEABLE & STEEL CASTINGS CO.

Cleveland, Ohio

San Francisco, St. Louis • *WORKS:* Cleveland, Chicago, Indianapolis, Melrose Park, Illinois, Sharon, Pennsylvania

THIS ONE RESPIRATOR DOES THE JOB OF FOUR!



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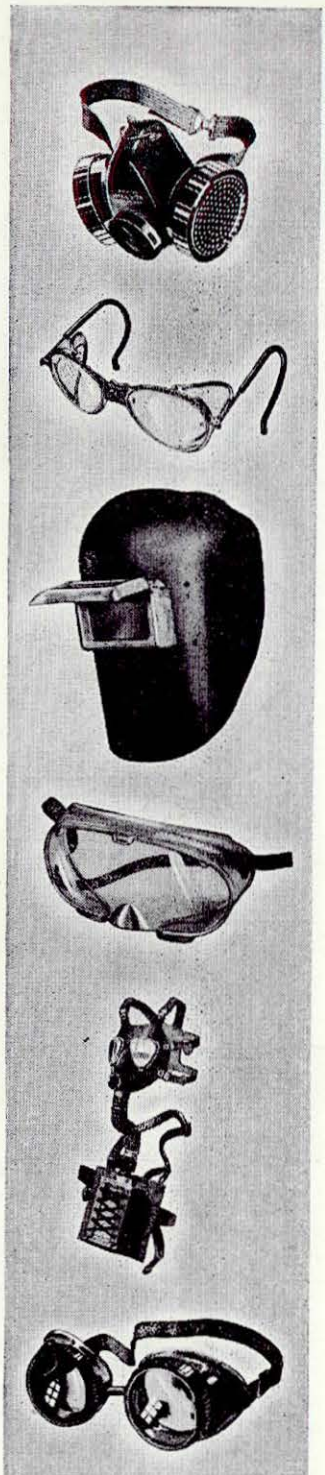


• Here's how to give your workers dependable lung protection against four different industrial hazards with only one respirator: standardize on Willson's 4-way respirator. Bureau of Mines approval No. 2149 for metal fumes, toxic dusts, pneumoconiosis-producing dusts, and nuisance dusts—all four!

Wearing this lightweight respirator will give your workers extra comfort, too. This safety-comfort combination pays off in increased worker efficiency and better morale, counteracts common worker objections to wearing respirators.

Willson's 4-way respirator is available in two sizes to fit either small or large faces. Compact, it may readily be worn under a welding helmet. Entire respirator is washable, easily sterilized for sanitary protection.

TWO DOUBLE FILTERS provide a large filtering area, assure free-and-easy breathing. Throw-away type. Easily, inexpensively replaced.

(No. 570)

Let us make a survey of your particular safety needs—at no obligation on your part. For detailed information on the Willson Safety Service Program write to the Railroad Sales Dept., Willson Products, Inc. 241 Washington St., Reading, Pa.

GOGGLES • RESPIRATORS • GAS MASKS • HELMETS

DOUBLE WILLSON

PRODUCTS INCORPORATED

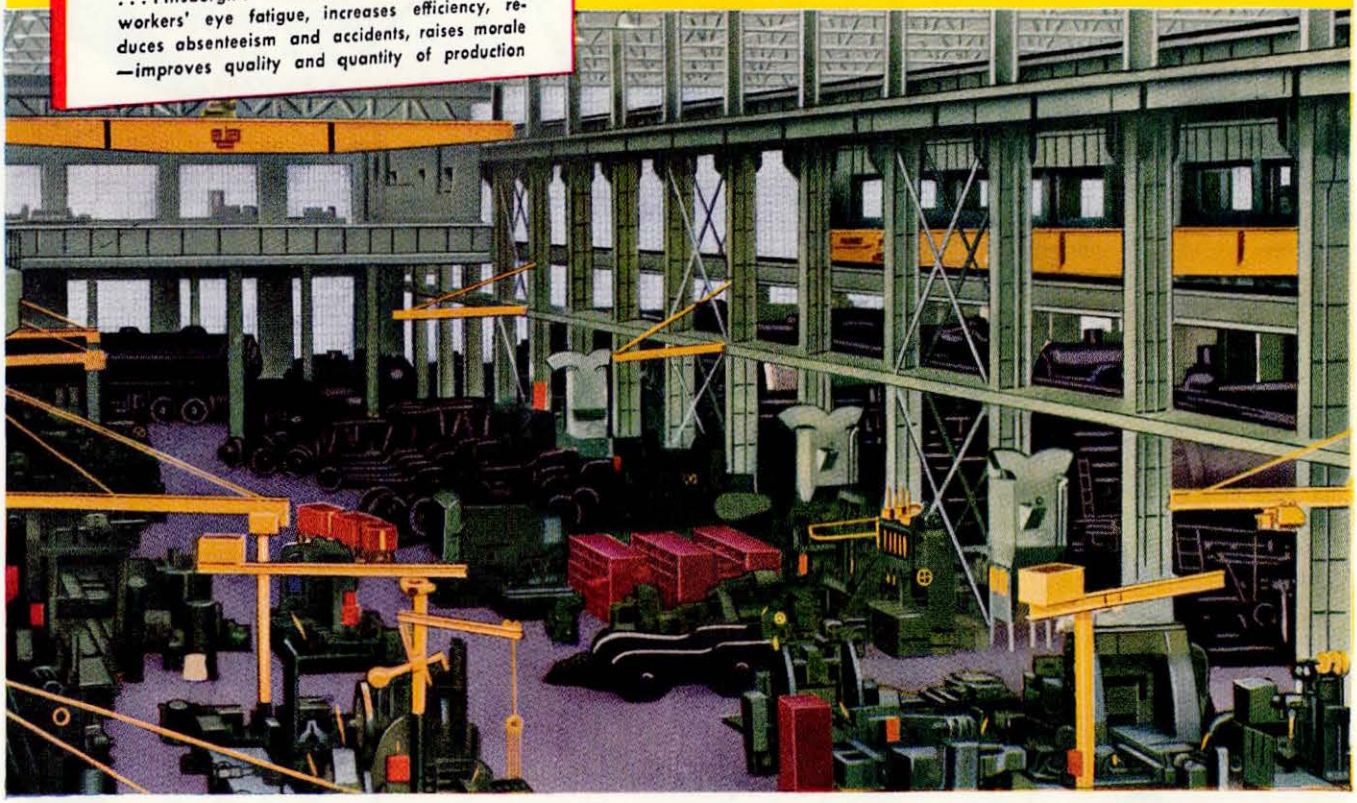
READING, PA., U. S. A. *Established 1870*

Color Dynamics

. . . Pittsburgh's scientific use of color lessens workers' eye fatigue, increases efficiency, reduces absenteeism and accidents, raises morale —improves quality and quantity of production

CHESAPEAKE & OHIO

Makes Use of Color Dynamics in Postwar Improvement Program!



Pittsburgh's *Color Dynamics* Painting System—adopted throughout vast Huntington shops—aids workers to rebuild and modernize rolling stock of one of the country's leading railway lines speedily and efficiently

MASTER MECHANICS and shop executives are finding by actual experience that Pittsburgh's COLOR DYNAMICS provides improved working conditions so that the important task of rebuilding and modernizing rolling stock can be performed with greater speed and skill.

COLOR DYNAMICS is based upon the fact that human beings are influenced by the energy in color. A notable example is the huge Huntington, W. Virginia, shops of the Chesapeake & Ohio Railway. Here color has been "engineered" on a vast scale for machines, walls, floors and ceilings.

By the use of proper focal and eye-rest colors, operating parts of machines are separated from stationary parts and the materials being fabricated. The worker sees his job better. Eye fatigue, so often the cause of lower efficiency, is lessened.

In place of drab, light-absorbing walls, morale-building colors improve the employees' mental attitude. Use of colors which warn of impending danger further reduces accident hazards.

Labor and management benefit alike by such purposeful use of color. Continuity of employment is increased. Quantity and quality of production are kept at high levels.

You can test COLOR DYNAMICS in your shops—simply and easily. Try it on a machine or two. Then compare results! Write for a free copy of our book which completely explains COLOR DYNAMICS.

There's A High-Quality Pittsburgh Finish For Every Railway Need!

Pittsburgh also offers a complete line of tough, long-lasting and quick-drying railway finishes—not just as good but better than prewar quality.

CARHIDE—attractive new colors for freight cars.

STATIONHIDE—for stations and warehouses.

IRONHIDE—for bridges and signal towers.

LAVAX SYNTHETIC ENAMEL—for passenger cars and locomotives.

PITTSBURGH PLATE GLASS COMPANY
Industrial Paint Division, Pittsburgh 22, Pa.

Factories: Milwaukee, Wis.; Newark, N. J.; Houston, Texas; Los Angeles, Calif.; Portland, Ore. Ditzler Color Division, Detroit, Mich. The Thresher Varnish Co., Dayton, Ohio.

PITTSBURGH PAINTS

PITTSBURGH PLATE GLASS COMPANY, PITTSBURGH, PA.
RAILWAY FINISHES

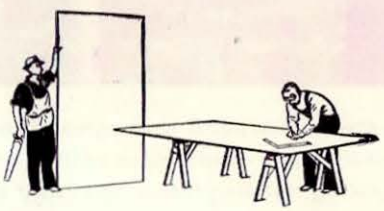
PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS

These Grade Trade-Marks on Douglas Fir Plywood mean

Quality

kept to Uniform Standards by Rigid Inspection!

THERE is a type and grade of Douglas fir plywood manufactured especially for every building need. Each must meet rigid standards of quality. Current production is constantly inspected . . . constantly tested in the Douglas Fir Plywood Association laboratory. Choose the type and grade for **your** particular job by these "grade trade-marks," which appear on every panel. Use it with complete confidence; its dependability is backed by an industry-wide quality standard.



Substantial Production Now Allocated to Veterans' Housing

Because the needs of the Reconversion Housing program are so acute, Douglas fir plywood is today being allocated by the Civilian Production Administration. This means that a substantial proportion of the Douglas fir plywood industry's current production must go to housing contractors, stock cabinet manufacturers, prefabricators and distributors.

As a result, the supply situation for all other industrial and construction uses is temporarily a difficult one. It is a fact, however, that more plywood is being produced today than in pre-war years. Once the present overwhelming demand has been met, an increased amount will be available for all uses in construction and industry.

Anticipate YOUR needs as far in advance as possible — and discuss those requirements with your regular source of supply.

Douglas Fir Plywood Association

Tacoma 2, Washington

DOUGLAS FIR PLYWOOD
LARGE. LIGHT. STRONG.
Real Wood
PANELS

GENUINE
DOUGLAS FIR
PLYFORM
TRADE MARK REG. U. S. PAT. OFF.
Concrete Form Panel
D. F. P. A.
INSPECTED

PLYFORM is the special concrete-form grade of Douglas fir plywood — a quality grade manufactured with highly water-resistant glues and intended for multiple re-use in form construction.

EXT. - D. F. P. A.

EXTERIOR-TYPE plywood is made with completely waterproof synthetic resin binder especially for permanent exposure to weather and water. It is widely used for building exteriors, for outdoor signs, for railroad car siding, and in all phases of marine construction.

GENUINE
TRADE MARK
-PLYSCORD-
REG. U. S. PAT. OFF. PEND.
SHEATHING
D. F. P. A.
INSPECTED

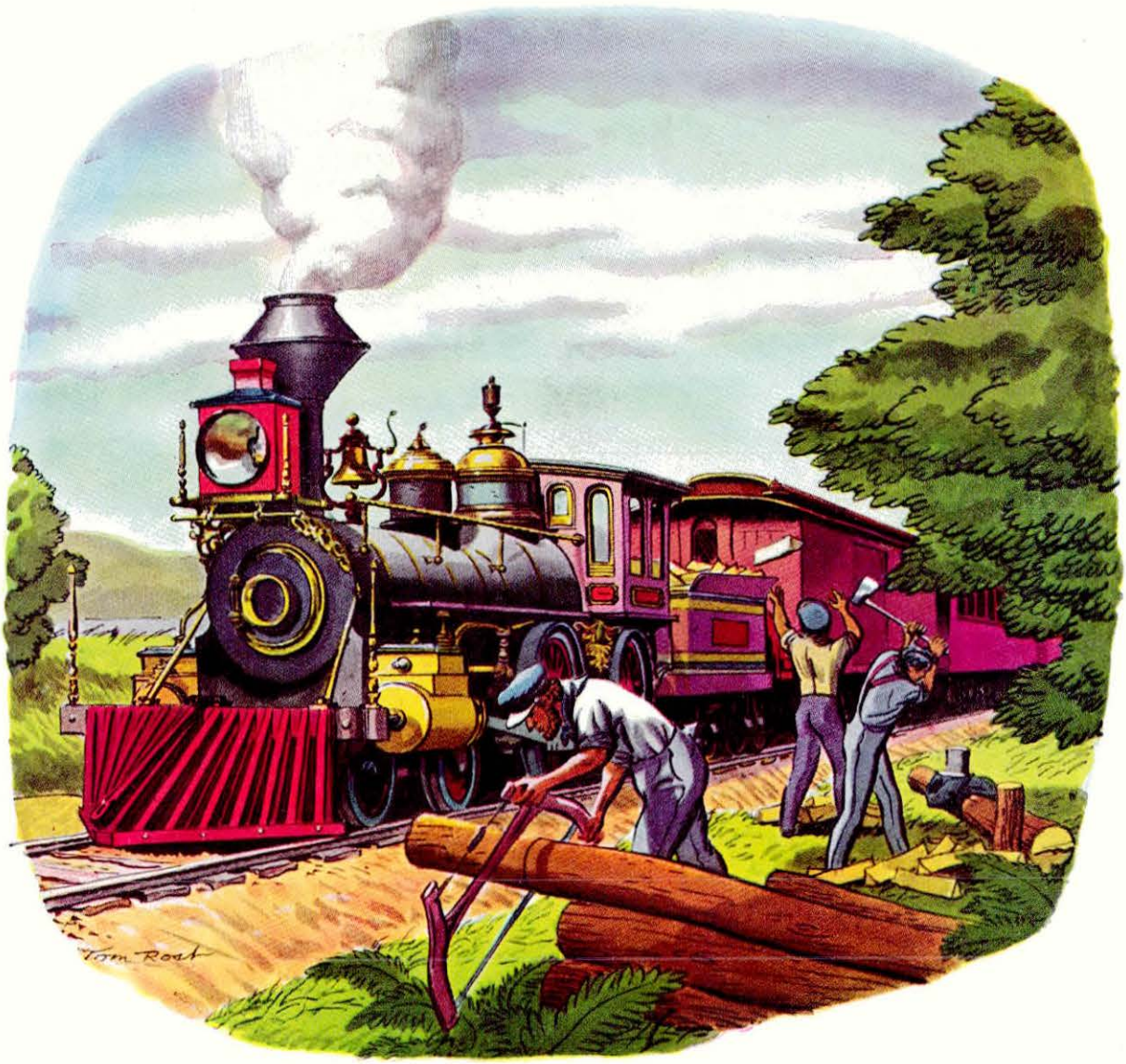
PLYSCORD is an unsanded utility panel of unusual rigidity, made to withstand the rigorous service demanded of wall and roof sheathing and of sub-flooring.

PLYPANEL D.F.P.A.

PLYPANEL is the grade of interior-type plywood made especially for high quality interior work on walls, ceilings, for booth partitions, cabinet doors and similar uses.

GENUINE
PLYWALL
TRADE MARK REG. U. S. PAT. OFF.
Douglas Fir Plywood
WALLBOARD
D. F. P. A.
INSPECTED

PLYWALL is the grade of interior-type plywood made for use where only one side is exposed, as in wall paneling. It is suitable for most stained finishes, for painting or papering.



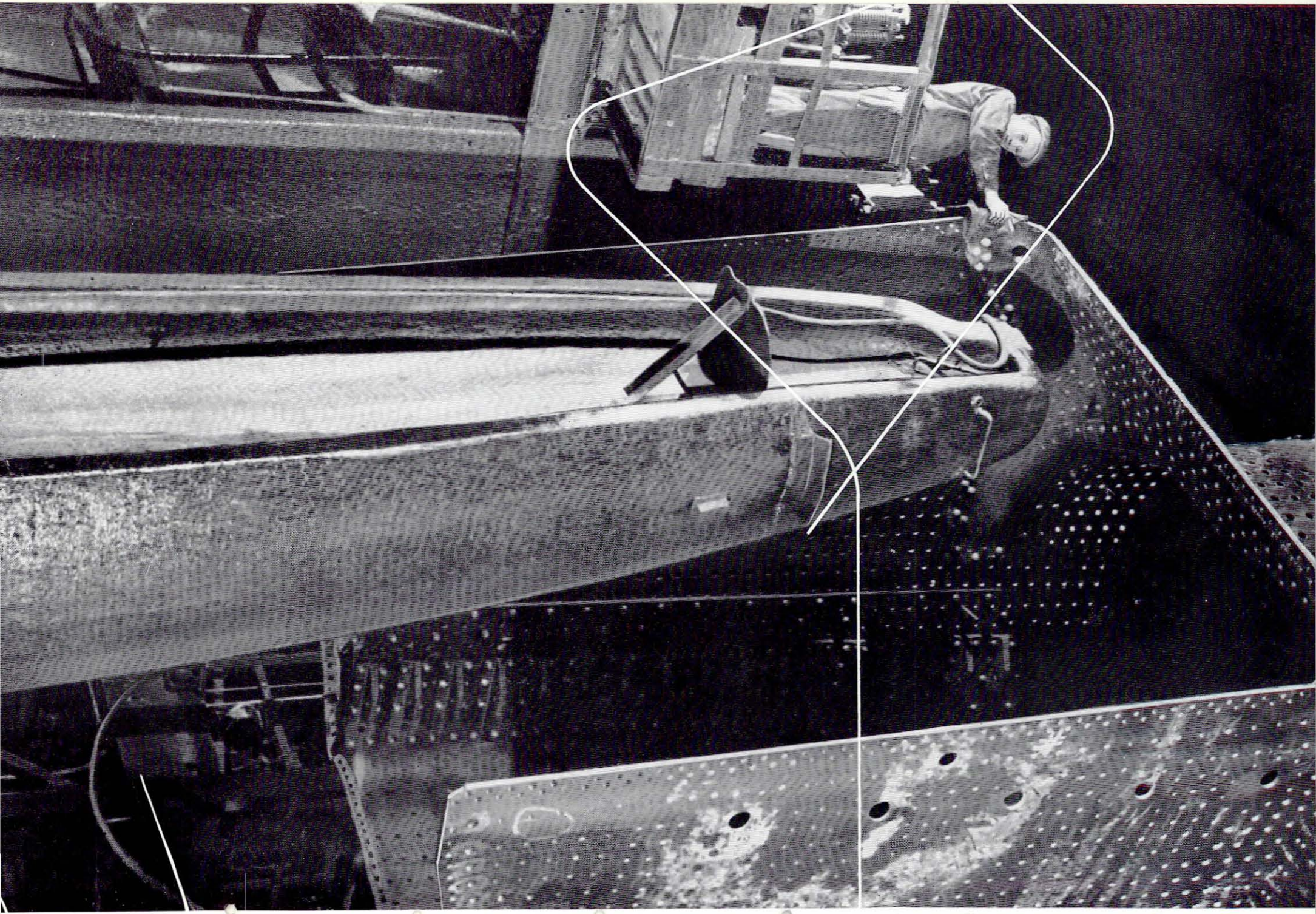
Wood Up!

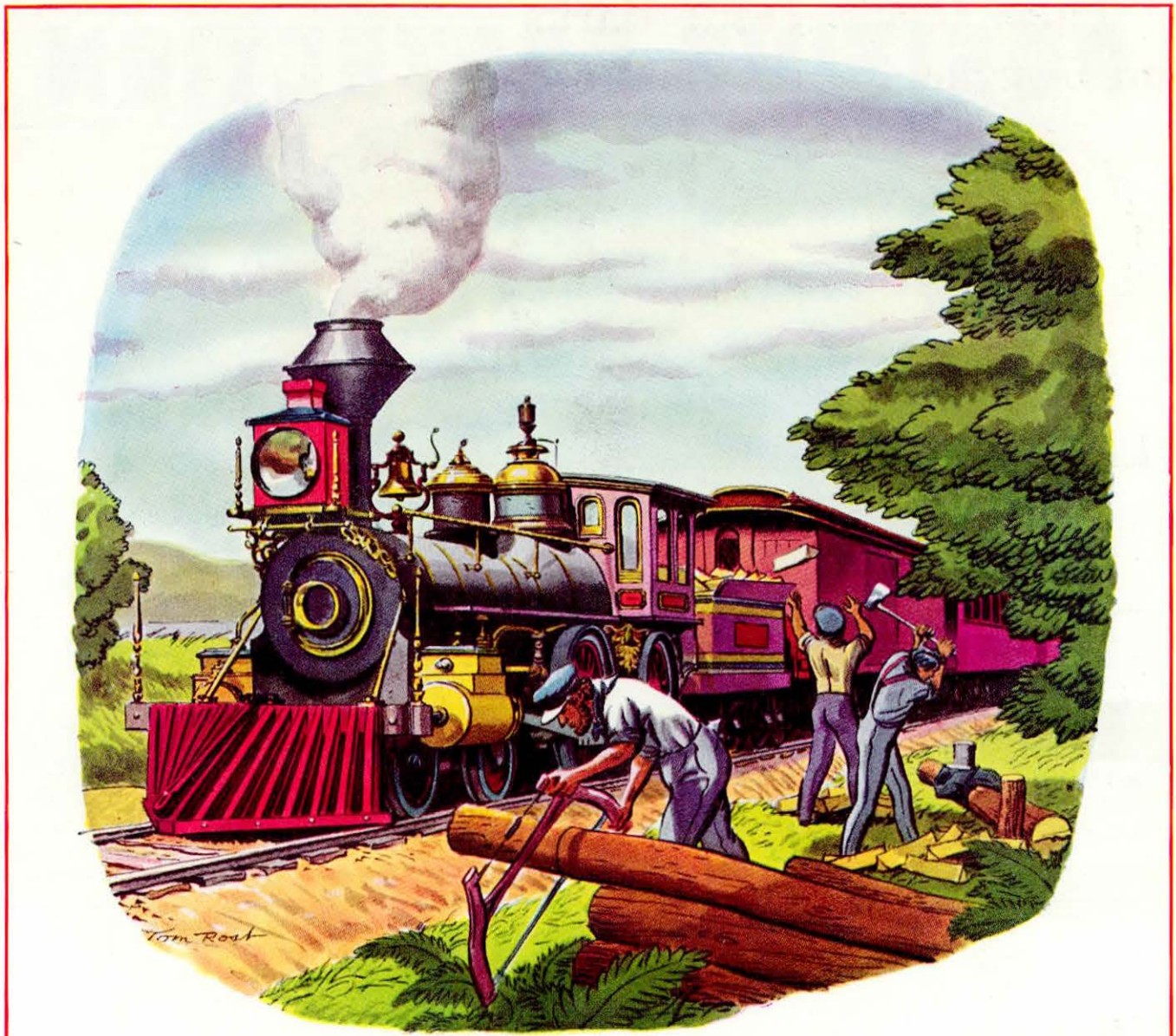
Once upon a time the "Wood Burner" was modern

DURING the early days of railroad expansion, the "Wood Burner" was recognized as an efficient locomotive that really had speed . . . but railroad equipment and thinking have changed considerably since then. So with Air Reduction • Today — the Airco Plan includes the latest, most modern oxyacetylene practices — engineered to meet exacting railroad requirements. Our plan cuts costs, and increases process efficiency while utilizing to the fullest extent the acquired skill of your own trained maintenance personnel.

AIRCO **AIR REDUCTION**

60 East 42nd Street, New York 17, N. Y.





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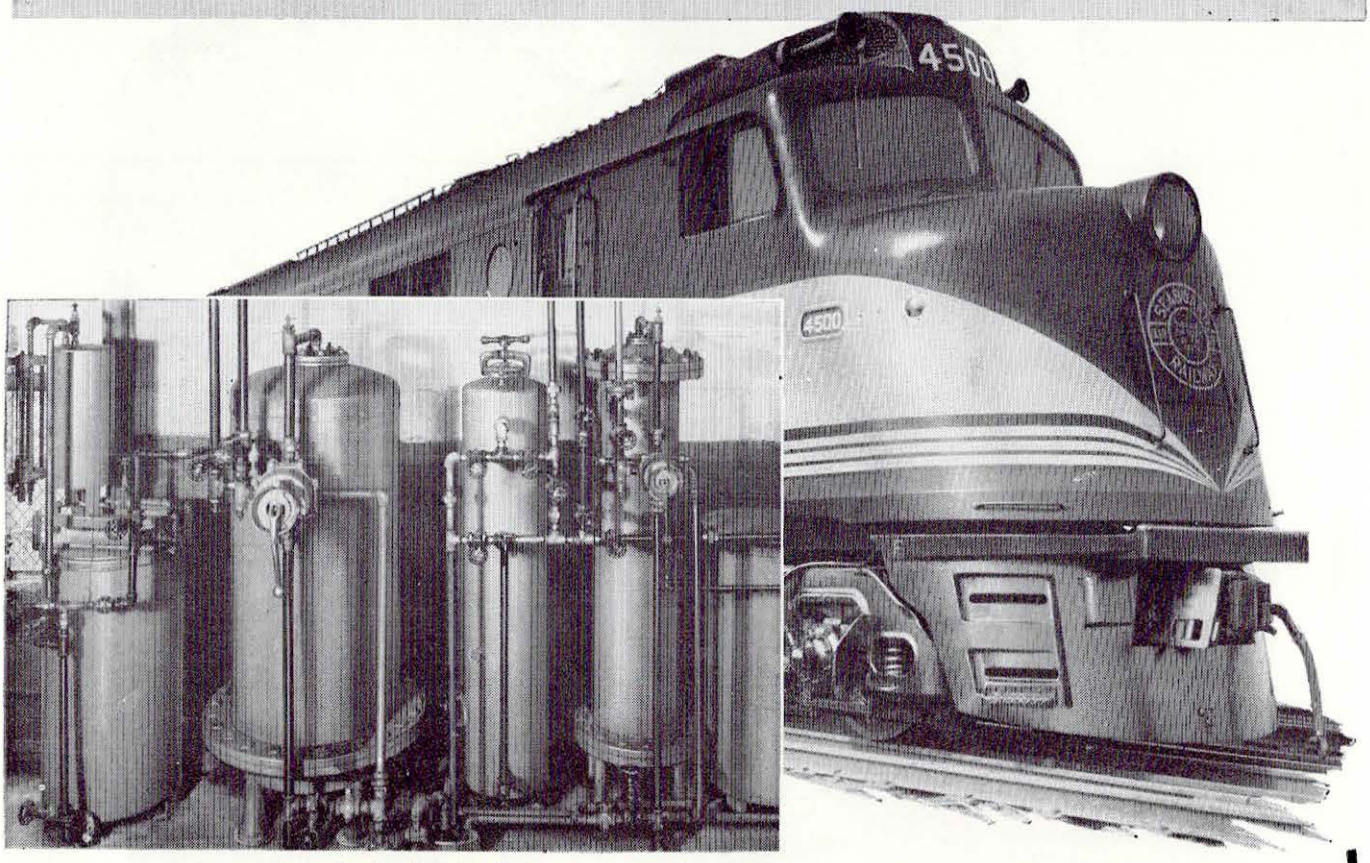
60 East 42nd Street, New York 17, N. Y.

POSITIVE PROTECTION



Graver Demineralizer Installation

Positive protection for the cooling system in Diesel powered locomotives calls for the use of a mineral free water . . . a water conditioned for the job.

Graver, a pioneer in the conditioning of water for locomotive boiler feed, now offers Demineralizing equipment producing a water equivalent to that obtained through distillation and perfectly suited to Diesel cooling.

Specify Graver equipment for Positive Protection.

In the Graver Demineralizer nearly all solids are removed and carryover, which may be encountered in the steam type still, is eliminated.

Where sulphates and chlorides are relatively low suitable water can be obtained through using a simple cation exchanger followed by degasification. Such a unit produces water having dissolved solids reduced by the amount of carbonates present in the supply. Sulphates and chlorides will be converted to their corresponding acids and can be neutralized by either a water treated in a zeolite softener or by the addition of caustic soda to the effluent from the cation exchanger. All the carbonates present are converted to carbonic acid and removed as carbon dioxide in a degasifier.

Water Conditioning Equipment Division

GRAVER

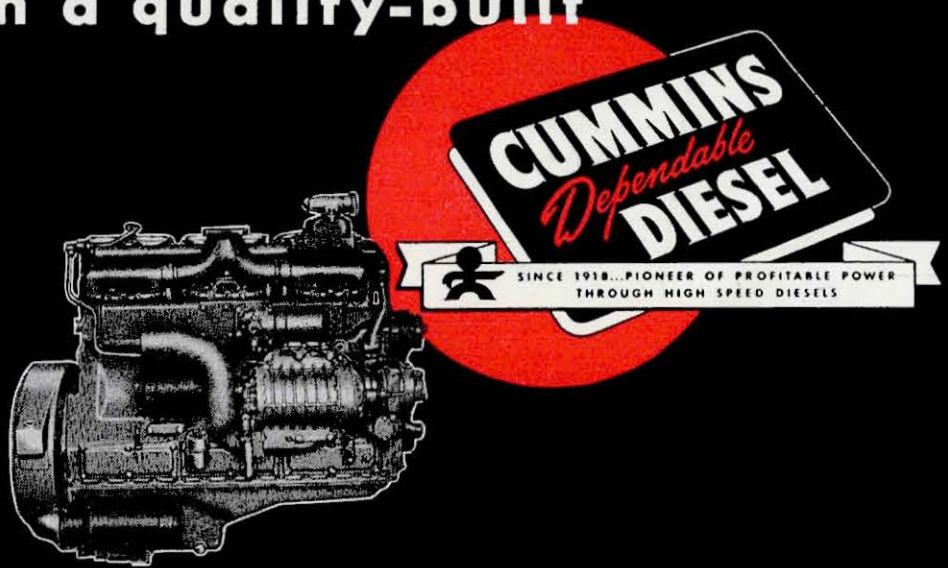
GRAVER TANK & MFG. CO., INC.
4808-95 TOD AVENUE, EAST CHICAGO, INDIANA

NEW YORK **CHICAGO** **PHILADELPHIA** **PITTSBURGH**
CATASAUQUA, PA. **PORT ARTHUR, TEX.** **SAND SPRINGS, OKLA.**

Predictable . . .

more profitable work-hours

with a quality-built



CUMMINS ENGINE COMPANY, INC. • COLUMBUS, INDIANA

CUMMINS DIESEL RAILROAD EQUIPMENT CO., INC.

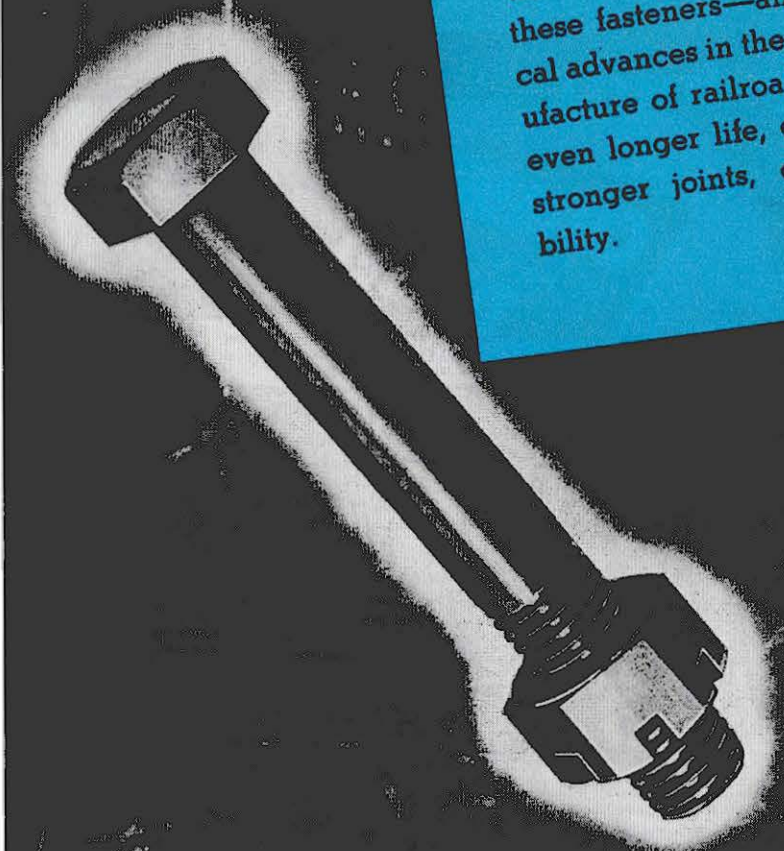
1030 Leggett Avenue, New 55, New York

Dependable FASTENERS

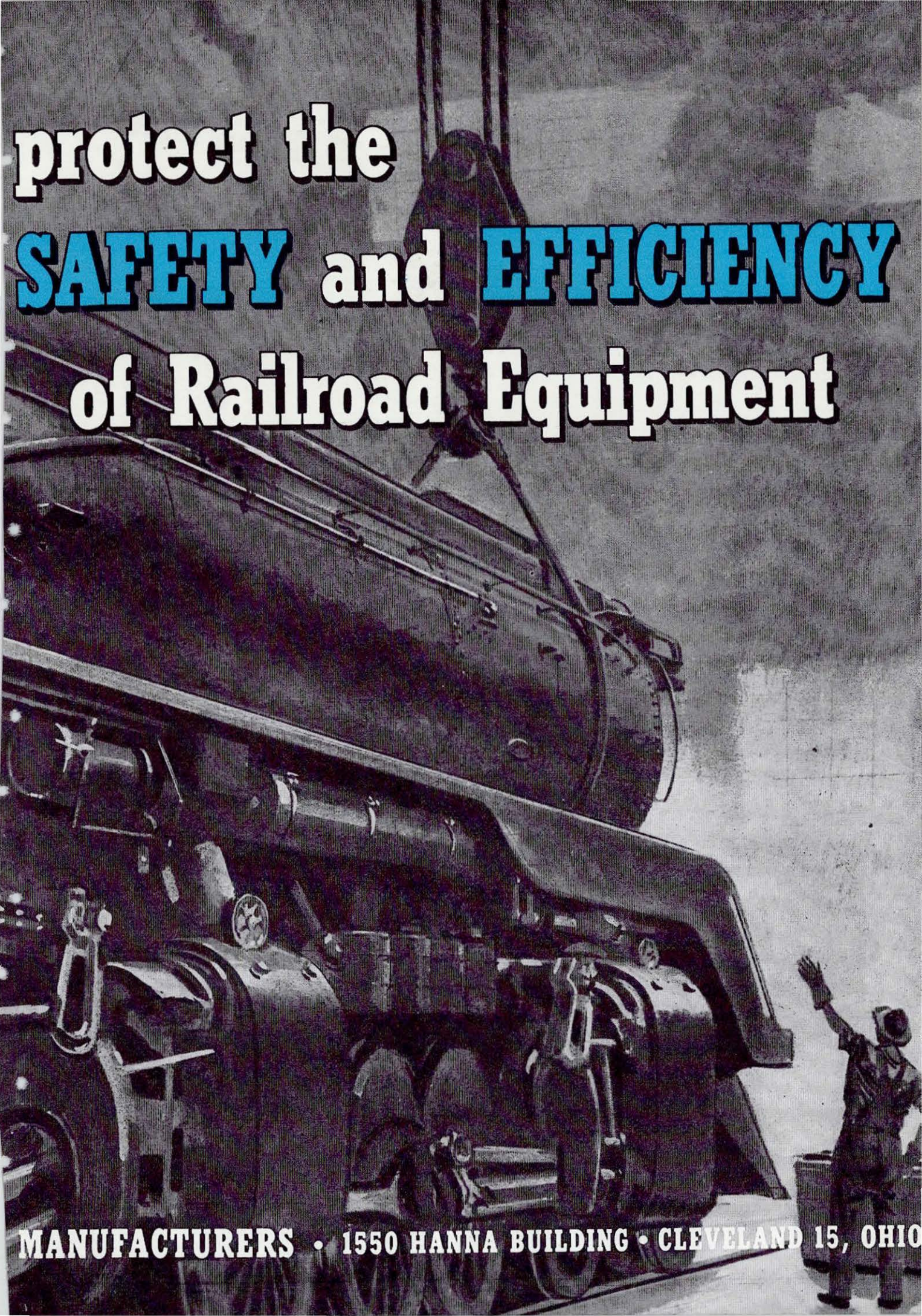
Bolts, Nuts, Rivets, Screws

The glorious safety record of America's railroads has been due in no small part to their insistance that every item used in the construction of rolling stock, track and structures be *dependable*. Bolts, nuts, rivets, screws and special fasteners are important items in this category that has served the railroads well.

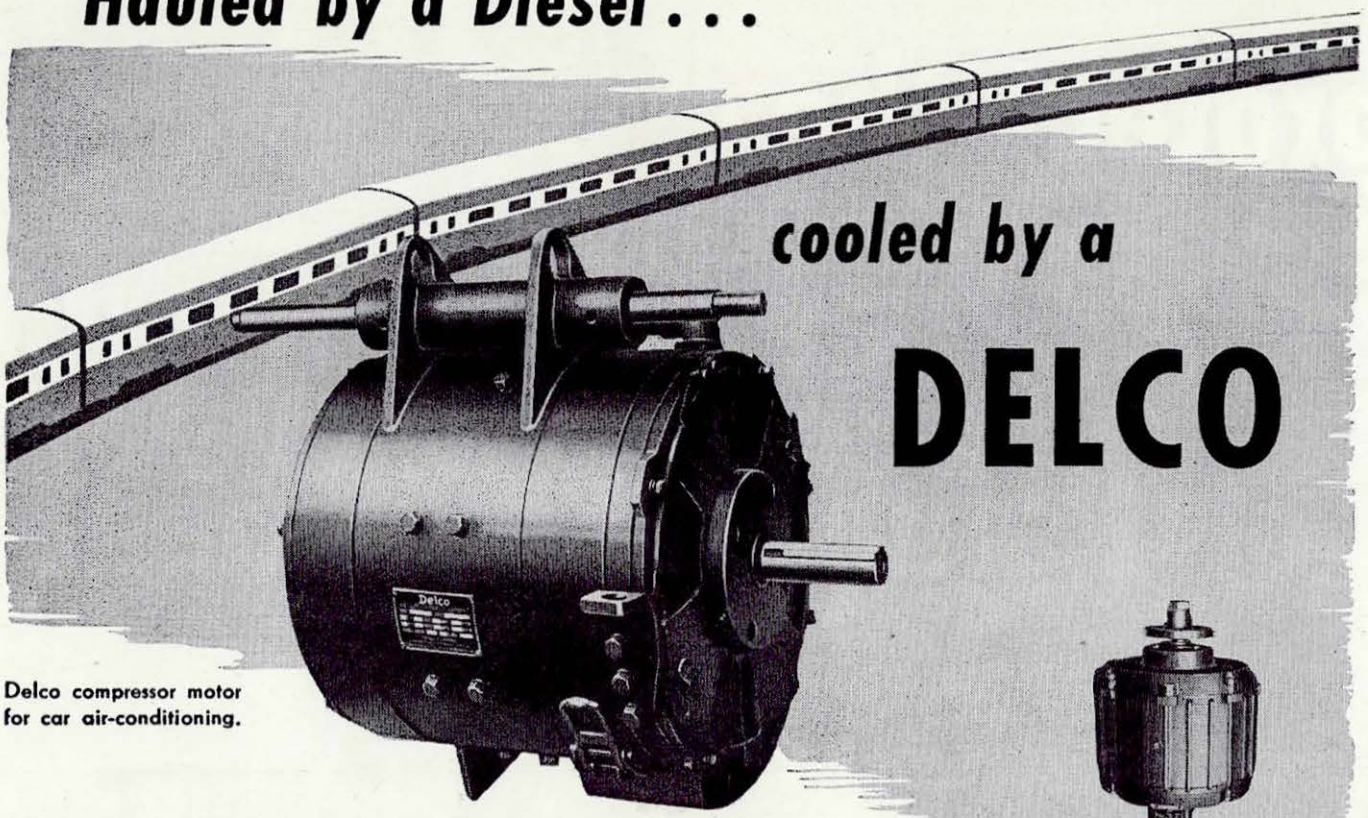
Years ago, the railroads learned that they could design and build with confidence when they used these fasteners—and today, technical advances in the design and manufacture of railroad fasteners mean even longer life, greater accuracy, stronger joints, greater dependability.



AMERICAN INSTITUTE OF BOLT, NUT AND RIVET


protect the
SAFETY and EFFICIENCY
of Railroad Equipment
MANUFACTURERS • 1550 HANNA BUILDING • CLEVELAND 15, OHIO

Hauled by a Diesel . . .

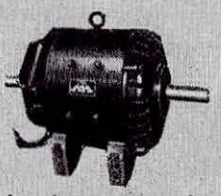


cooled by a DELCO

Delco compressor motor for car air-conditioning.

Delco 12-h.p. blower motor for cooling grids during electric braking.

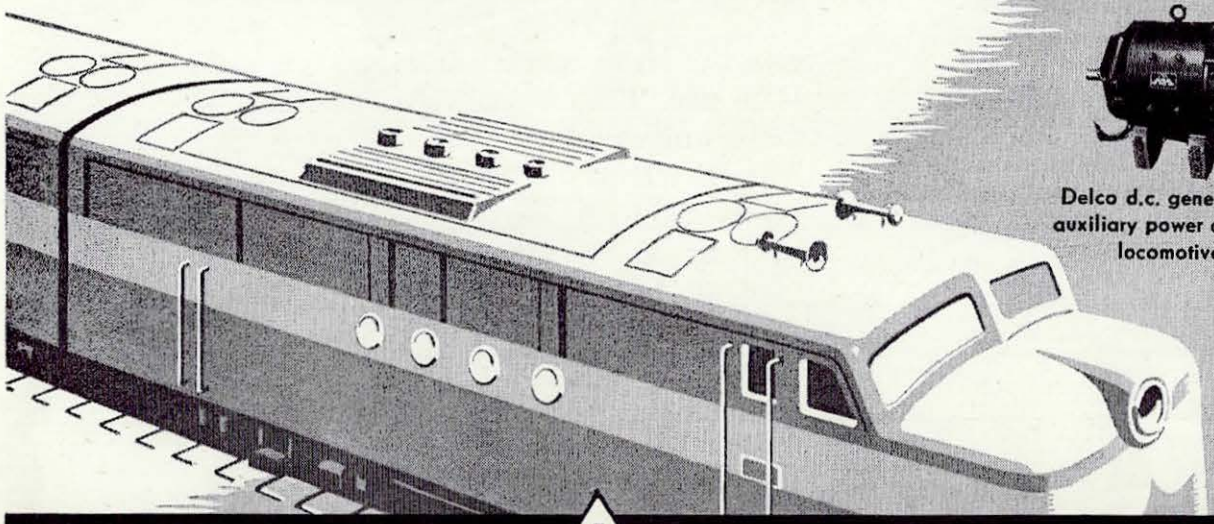
Delco 5-h.p. blower motor for cooling traction motors.



Delco d.c. generator for auxiliary power on Diesel locomotives.

Delco compressor motors have been specified for the air-conditioning equipment on many of America's modern trains. Coincidentally, Delco motors perform other cooling jobs in the Diesel locomotives that haul these trains. They drive blowers to dissipate heat in traction motors and to cool grids during electric braking.

Whatever the assignment, Delco railroad motors and generators are designed with a single purpose: to provide unfailing service with a minimum of maintenance.



DELCO MOTORS

DIVISION OF GENERAL DELCO PRODUCTS DAYTON, OHIO MOTORS CORPORATION

MOBILIFT "Rates" with the Men in the Warehouse

Ask the crew in any warehouse where Mobilift is in use. They'll tell you how much simpler, faster and smoother a Mobilift moves materials. They'll tell you, too, that Mobilift is safer and easier than the old "muscle methods" of the hand truck. And if you check with the superintendent, he'll tell you that Mobilift pays for itself many times over in lower handling costs. Join the thousands of plants that are cutting production costs with Mobilift.

SALES OFFICES:

34-48 Steinway St., Long Island, N.Y.
2430 South Parkway, Chicago 16, Ill.
107 Walton Street N. W., Atlanta, Ga.

MOBILIFT *Moves Materials like a Giant!*

VAUGHAN MOTOR COMPANY ★ 835 S. E. Main Street, Portland 14, Oregon

Right! For with an Adlake Breather Window the need for troublesome dehydrants and drying compounds is banished forever!

Furthermore, the original installation is the only one you make; if panes are accidentally broken in service, you replace the *glass only*—not the entire unit.

LET THEM *SEE* THE SCENERY YOU ADVERTISE!
An Adlake Window will not cloud, steam or frost . . . thanks to the patented "breather" which allows the inner air to adjust to all altitude and temperature changes, and keeps dust, dirt and cinders *out!*

Painstaking, custom-built construction makes an Adlake Aluminum Window a lifetime investment for both new and reconditioned cars. So why not let our engineers recommend the right installations for *your* rolling stock . . . soon?

Adlake TRADE MARK

THE ADAMS & WESTLAKE COMPANY

ESTABLISHED IN 1857 ELKHART, INDIANA NEW YORK · CHICAGO

Manufacturers of Adlake Specialties and Equipment for Railway, Highway, Airway, Waterway

MOBILIFT "Rates" with the Men in the Warehouse

Ask the crew in any warehouse where Mobilift is in use. They'll tell you how much simpler, faster and smoother a Mobilift moves materials. They'll tell you, too, that Mobilift is safer and easier than the old "muscle methods" of the hand truck. And if you check with the superintendent, he'll tell you that Mobilift pays for itself many times over in lower handling costs. Join the thousands of plants that are cutting production costs with Mobilift.

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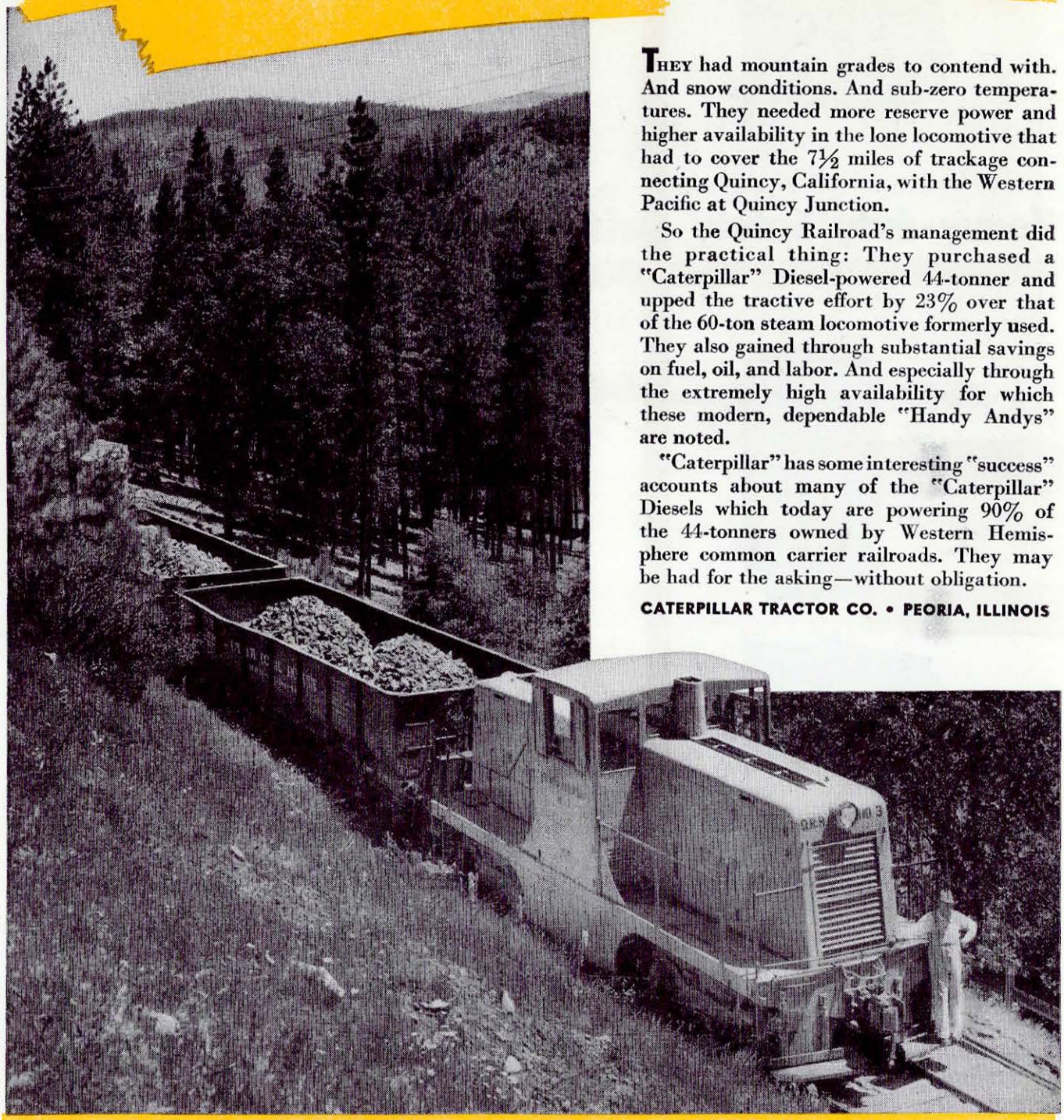
THE ADAMS & WESTLAKE COMPANY

ESTABLISHED IN 1857 **ELKHART, INDIANA** *NEW YORK · CHICAGO*

Manufacturers of Adlake Specialties and Equipment for Railway, Highway, Airway, Waterway

they knew what they needed ...AND GOT IT



THEY had mountain grades to contend with. And snow conditions. And sub-zero temperatures. They needed more reserve power and higher availability in the lone locomotive that had to cover the 7½ miles of trackage connecting Quincy, California, with the Western Pacific at Quincy Junction.

So the Quincy Railroad's management did the practical thing: They purchased a "Caterpillar" Diesel-powered 44-tonner and upped the tractive effort by 23% over that of the 60-ton steam locomotive formerly used. They also gained through substantial savings on fuel, oil, and labor. And especially through the extremely high availability for which these modern, dependable "Handy Andys" are noted.

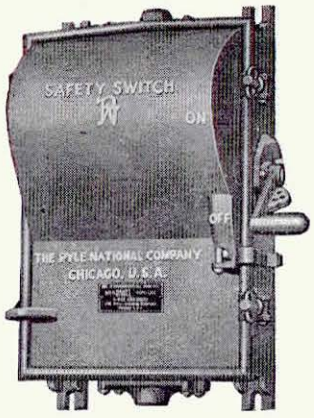
"Caterpillar" has some interesting "success" accounts about many of the "Caterpillar" Diesels which today are powering 90% of the 44-tonners owned by Western Hemisphere common carrier railroads. They may be had for the asking—without obligation.

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS

CATERPILLAR DIESEL

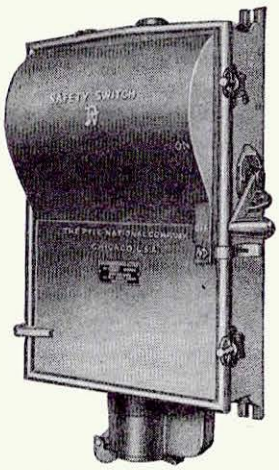
REG. U.S. PAT. OFF.

ENGINES • TRACTORS • MOTOR GRADERS • EARTHMOVING EQUIPMENT



Heavy-duty Safety Switches & Circuit Breaker Pylets

Circuit breaker Pylet with interlocked receptacle and QuelArc plug.



Safety Switches: 2, 3, and 4 pole; 30, 60, 100 and 200 amperes; 125, 250 and 600 volts; fusible type, with or without interlocked receptacle for QuelArc plug.

These Pyle-National safety switches are built for mill and railroad service, with the substantial construction needed to withstand severe operating conditions. Case and cover are heavy-section galvanized cast iron; operating parts are heavy cast metal, and designed for quick make and break action. Contacts are mounted on heavy slate. The operating shaft has bronze bearings. The case is fully protected, with both cover and hub plates equipped with weatherproof gaskets. The operating lever extends through the case in a rust-proof bearing and the cover is held closed by rust-proof wing nuts and bolts. These features assure dependable service and long life even under severe operating conditions.

Circuit breaker Pylets of similar heavy duty construction are available with or without interlocking receptacle for QuelArc plugs.

Consult your Pylet catalog for complete listings or write for recommendations.

PYLE-NATIONAL
RAILWAY ELECTRICAL EQUIPMENT
• SINCE 1897 •

THE PYLE-NATIONAL COMPANY
1334-58 North Kostner Avenue • Chicago 51, Illinois
Offices: New York • Baltimore • Pittsburgh • St. Louis • St. Paul • San Francisco
Export Department: International Railway Supply Company, New York
Canadian Agents: The Holden Company, Ltd., Montreal

CONDUIT FITTINGS • FLOODLIGHT PROJECTORS • LOCOMOTIVE ELECTRICAL EQUIPMENT

BETHLEHEM HEAT-TREATED CROSSINGS

for today's greater loads and heavier impacts

During the past fifteen years, hundreds of Bethlehem heat-treated bolted crossings have been used successfully by leading American railroads. The picture above shows one multiple installation in main-line track where speeds are high, traffic heavy, and impacts very severe. Note the perfect alignment and surface.

In this type of crossing, all component parts are of forged or rolled steel. The bolts are specially treated to resist stretching. Machine work, cutting, and fabrication are done prior to treatment; then the complete fabricated unit, including rails, fillers, and braces, is slowly and carefully heated. Next it is given an oil-quench, followed by drawing and annealing under precise electric-pyrometer temperature controls. Finally it is torn down and sand-blasted to remove scale, then reassembled with high-tensile alloy bolts.

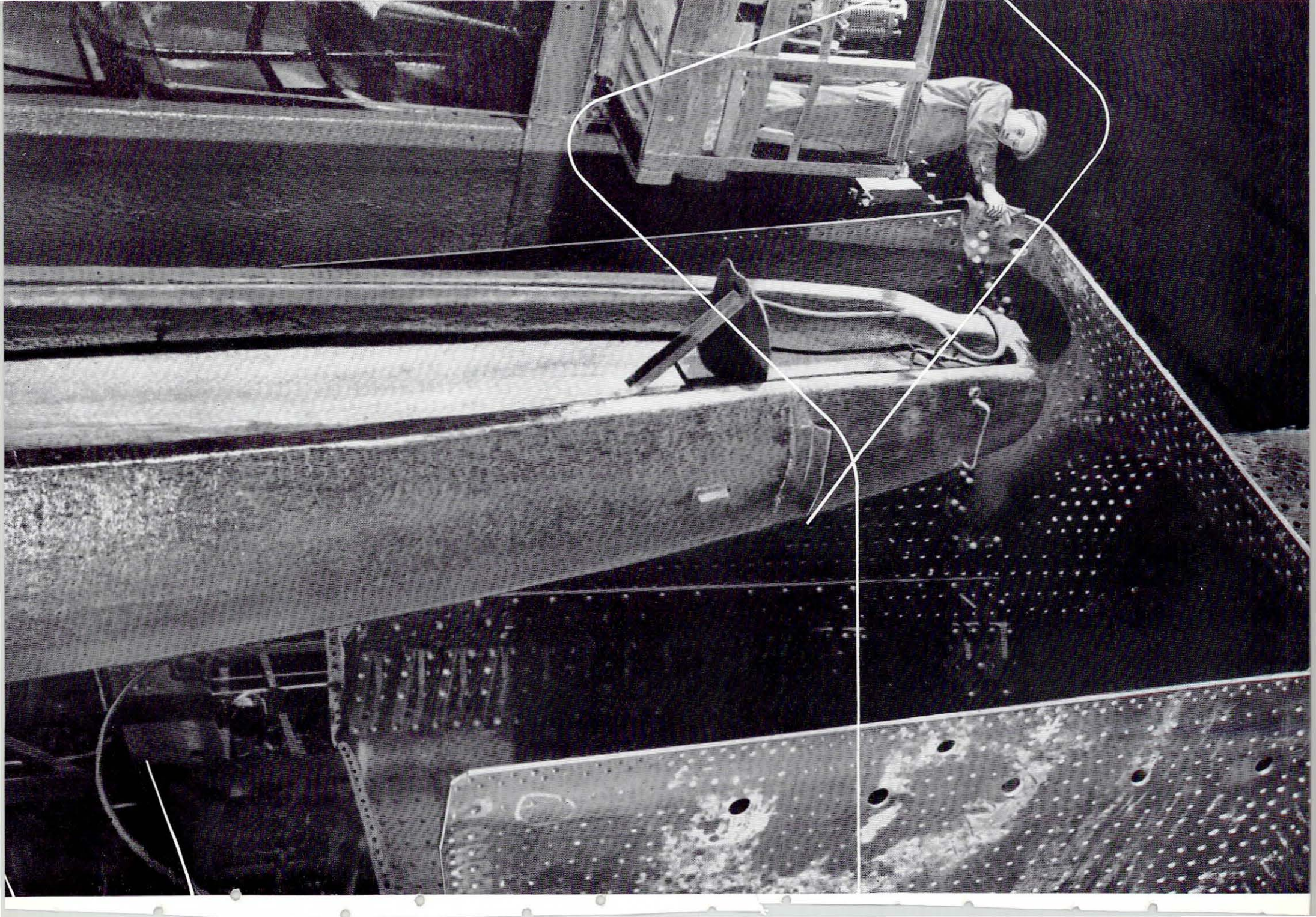
When the unit is delivered, you have a product that is uniformly hard throughout the entire cross-section; a product unusually resistant to chipping, spalling, cracking, and wear.

Further details of these crossings are available on request. Let us quote you on two- or three-rail jobs to your own standards or to A.R.E.A. designs.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

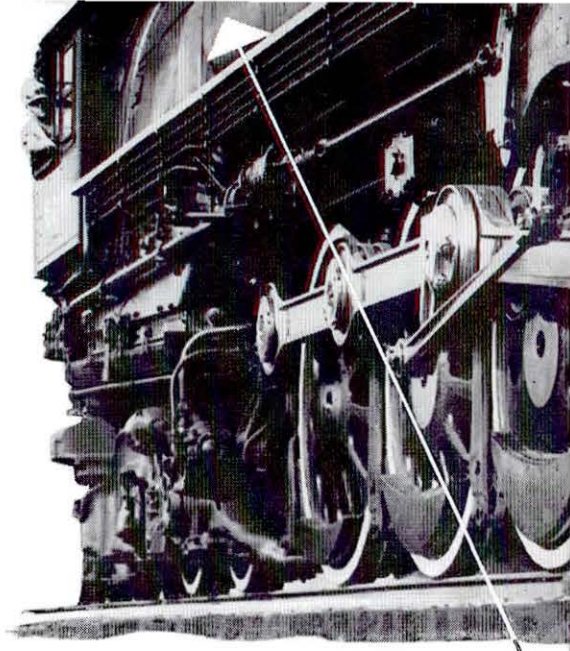
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation

★ BETHLEHEM STEEL ★



Facts About Steam Locomotive Parts

Riveter



What happens here may make a huge difference in service and safety here!

Seventh Advertisement of an Important Series

THIS giant bull riveter working on an upended boiler of the Belpaire type in ALCO's Schenectady shops performs hydraulic riveting swiftly and economically. The "Bull's" pressure range of from 42 to 200 tons per square inch permits ALCO to manufacture the largest locomotive boilers now in railroad use, and insures correct capacity and pressure ratings in strict conformance with specifications. This giant riveter's stake measures 23 feet from floor to riveting die, has a tower clearance of 52 feet from die to limit switch, and is serviced by a 65-ton crane.

Manned by an ALCO specialist, it contributes effectively to the high economy of ALCO production, while firmly upholding the high standard of ALCO quality.

This is another example of why genuine ALCO replacement parts give you the greatest possible value per dollar in safety and service! American Locomotive Company, 30 Church Street, New York 8, N. Y.

American Locomotive

Alco

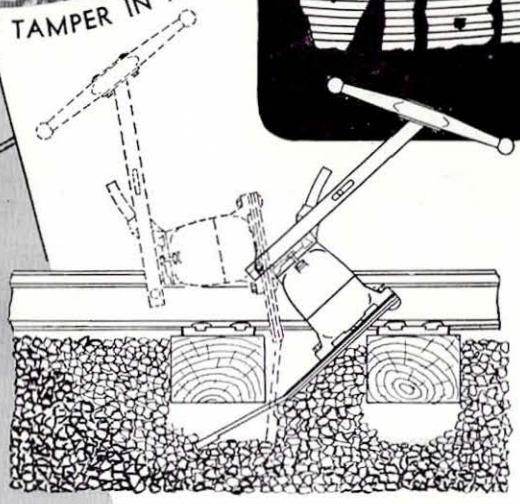
THE MARK OF MODERN ENGINEERING

To Do A Real Job of Tamping

ACTUAL PHOTO OF TAMPER IN ACTION

You've got to GET WAY UNDER Both TIE & RAIL

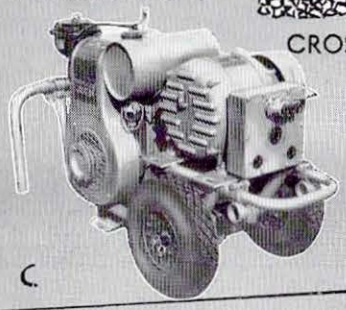
JACKSON VIBRATORY Tampers are IDEALLY DESIGNED for THIS PURPOSE



CROSS SECTION VIEW OF ACTION

JACKSON M-2 POWER PLANT

— one of several models equipped with the new trouble-free, no-maintenance, permanent magnet generators. Capacities: 1.25 to 5 KVA (Continuous duty) Single phase and 3 phase 115 Volt, 60 Cycle A.C. to operate 2, 4, 8 or 12 tampers or B&B tools to full rated capacity.

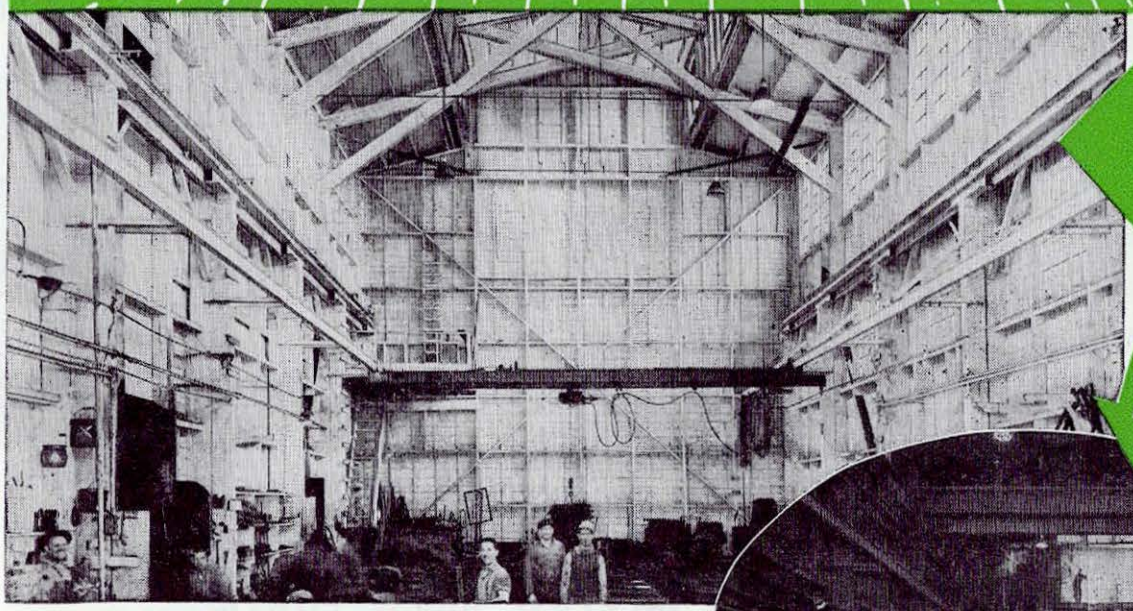


Obviously, it's much easier to insert the blade of a JACKSON Tamper way under the tie and rail than it is to similarly insert the blade of any straight shank tamper. That 10-inch offset in the line of blade and handle eliminates the necessity of a contortionist's bend on the part of the operator — encourages him to do the job as it should be done. And that's just one of many reasons why experienced track men prefer JACKSONS! Why they'll put up more track of better, longer-lasting quality with JACKSONS than with any other equipment.

With a rising wage scale and a tremendous job to do, the speed and labor saving features of JACKSON Vibratory Tampers are increasingly important factors. Let us send you complete information on this equipment and how to use it most effectively.

ELECTRIC TAMPER & EQUIPMENT CO., Ludington, Mich.

Lighting efficiency increased up to *102%* on painting with SPRAY-DAY-LITE



Six Big Reasons why more and more railroads are switching to Glidden SPRAY-DAY-LITE for all their maintenance painting . . .

1. **SPRAY-DAY-LITE increases lighting efficiency by giving *maximum* light reflection and diffusion (increases of up to 102% on record).**
2. **Produces conventional two-coat results in only one coat.**
3. **Provides smooth, solid covering over grimy, dirty and badly discolored surfaces of almost any type.**
4. **Its intense white does not yellow with age (also available in 10 beautiful colors).**
5. **Durable, egg-shell finish eliminates eye-straining glare—washes like tile.**
6. **Sprayed or brushed, it does not sag or run; produces little fog or mist when sprayed.**

Check coupon for Color Chart and free demonstration of SPRAY-DAY-LITE on any interior surface you may select. See the actual proof of the many SPRAY-DAY-LITE advantages, including lower painting costs.

TIME-TESTED

THE GLIDDEN COMPANY
11001 Madison Ave., Cleveland 2, Ohio

☐ You may send your new SPRAY-DAY-LITE Color Chart showing the 10 beautiful shades and suggested color combinations.

☐ You may have representative call and demonstrate SPRAY-DAY-LITE in our premises without obligation on our part.

NAME _____

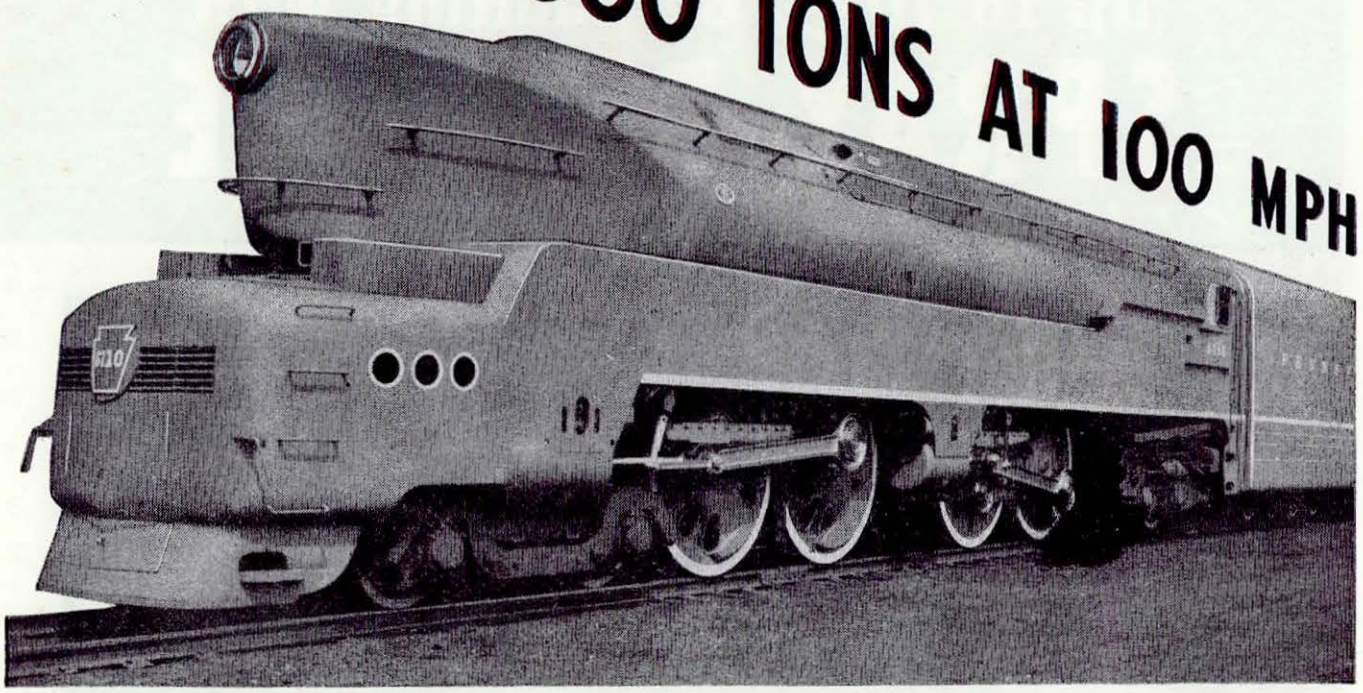
COMPANY _____ TITLE _____

ADDRESS _____

CITY AND STATE _____

Glidden★ *Pacemaker in Paints*

880 TONS AT 100 MPH

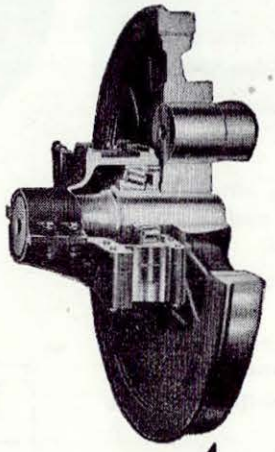


NICKEL ALLOY STEEL PARTS HELP REDUCE WEIGHT... ...INCREASE HORSE POWER

Pennsylvania's "T-1" introduces new concepts of locomotive performance in fast and heavy service.

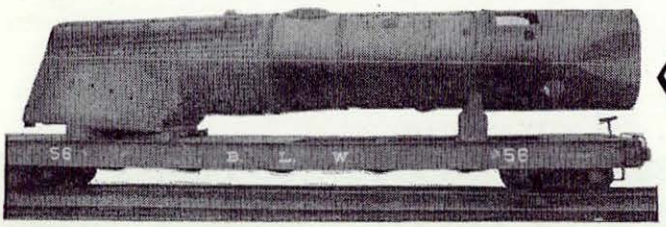
Capable of hauling 880 tons at 100 miles per hour on level track, this locomotive may be used efficiently in fast freight or passenger service.

Weight reduction . . . without compromising safety . . . is accomplished, in part, by wide use of Nickel alloy steels. Your inquiries on their use in railroad service are invited.



MANY T-1 COMPONENTS PROVE ADAPTABILITY OF NICKEL STEELS

This cutaway view shows a Timken railroad type bearing made of Timken steel containing 4 per cent Nickel. "Boxpok" driving wheel centers and one-piece bed and truck frames of the T-1 are cast of 2¼ per cent Nickel steel by General Steel Castings Corp. Main and side rods and light weight reciprocating parts are forged from The Timken Roller Bearing Company's "High Dynamic" Nickel-chromium-molybdenum steel.



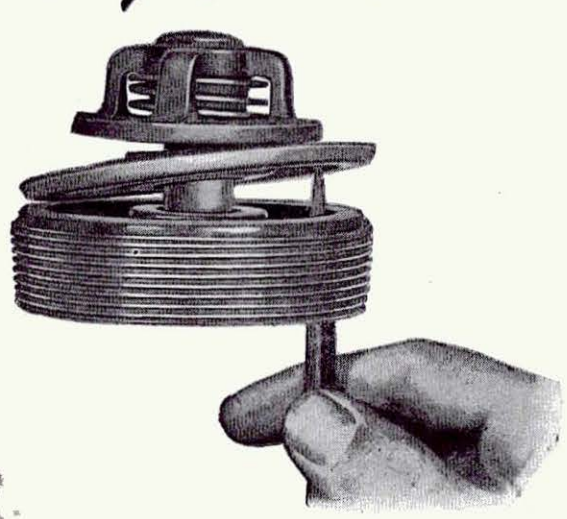
WHERE NICKEL STEEL REDUCES DEAD WEIGHT AND IMPROVES PERFORMANCE

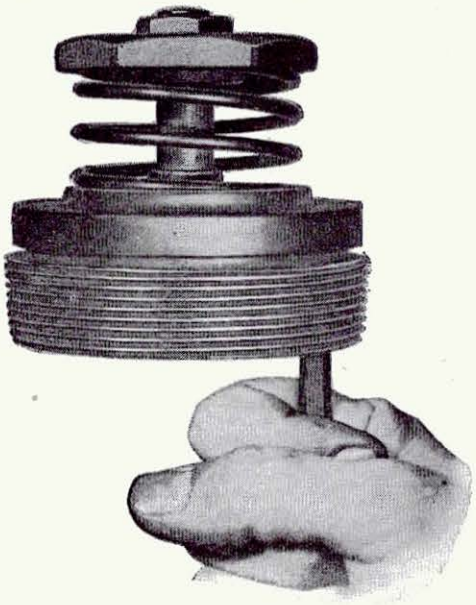
The T-1 locomotive boiler is a modified Belpaire type designed for 300 p.s.i. working pressure. To save weight and insure dependability, boiler and firebox plate are specified to be of 2 per cent Nickel low carbon steel. As a result of the successful performance of the two original T-1's in passenger service since 1942, the Pennsylvania Railroad ordered 50 more...25 from their Altoona Works and 25 from the Baldwin Locomotive Works.

THE INTERNATIONAL NICKEL COMPANY, INC. 67 Wall Street New York 5, N.Y.

DURABLA

Try This Pencil Point Test





DURABLA Metal Pump Valve Units* with free-tilting valve member and light spring tension can be tilted and opened with a slight pressure of a pencil point.

All reciprocating pump valves are subjected to flow forces which necessitate tilting while opening. DURABLA Pump Valve Units are designed so they can follow these natural flow lines and tilt under any load condition without side friction or side pressure.

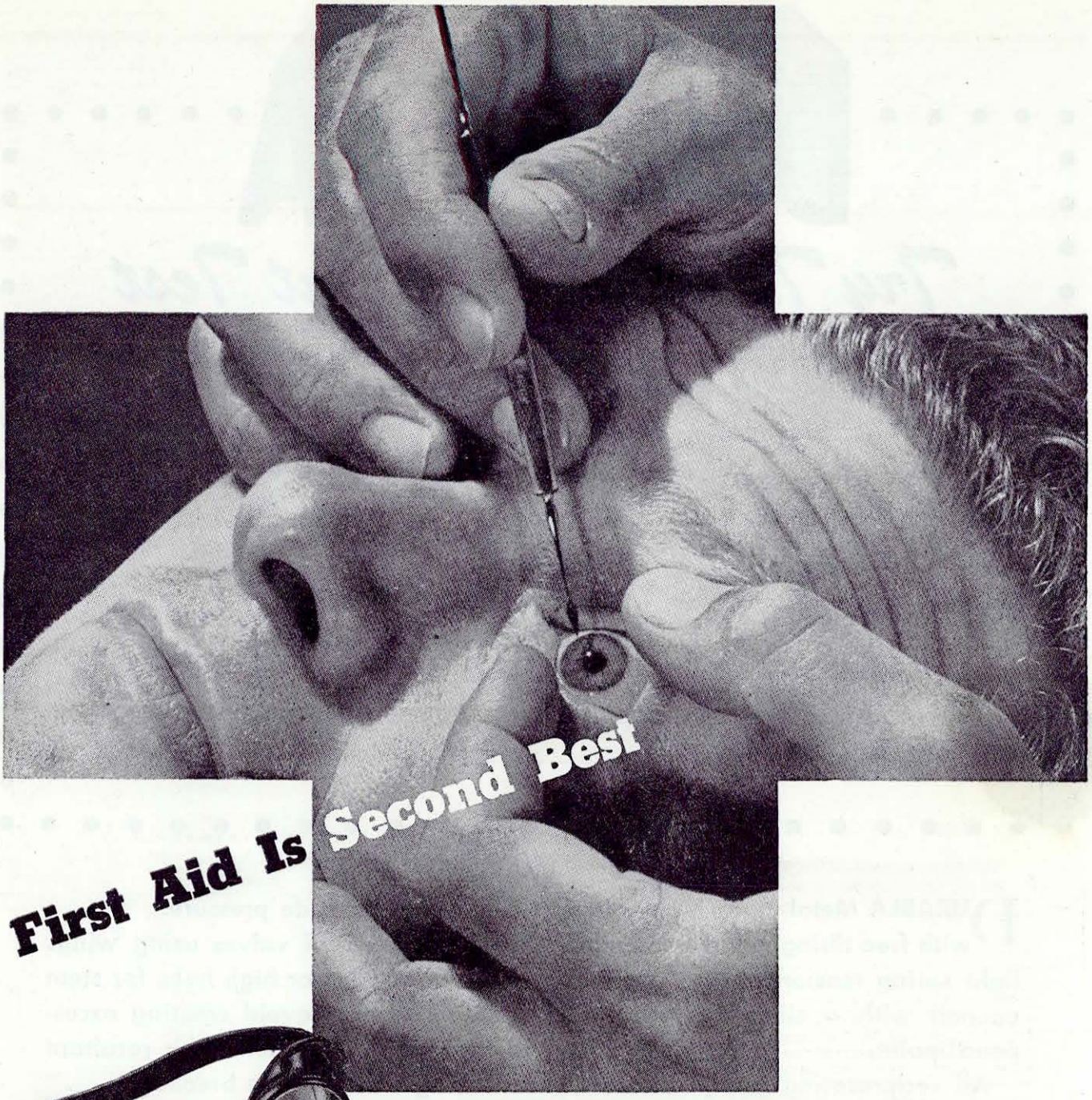
Other types of valves using wings for seat guiding or high hubs for stem guiding, cannot avoid creating excessive wear and friction, with resultant warping and possible breakage.

DURABLA Pump Valve Units are designed—by engineers who know pump valve problems—for pump users and pump manufacturers who want high performance and long term economy.

Address DURABLA Engineering Department for information and bulletin: Reference 6A9

*Patent Numbers 2090486, 2117504

DURABLA MANUFACTURING COMPANY
114 LIBERTY ST. NEW YORK
BRANCHES IN PRINCIPAL CITIES. FOR CANADA REFER: CANADIAN DURABLA LIMITED, TORONTO



A-O Safety Goggles Can Prevent 98% of Costly Eye Accidents

Typical records reveal that eye injuries cost (in first aid attention, idle machine charges, unproductive time, and other frequently "hidden" costs) $14.60 per injured man per year. Yet 98% of these accidents (according to the verified figures of the National Society for the Prevention of Blindness) are *avoidable*—mainly through the use of Safety Goggles.

Can you afford to overlook this opportunity to lower your production costs?

Why not let your nearest A-O Safety Representative give you the complete story on savings through eye safety.

American Optical COMPANY *Safety Division*

SOUTHBRIDGE, MASSACHUSETTS

BRANCHES IN PRINCIPAL CITIES

Railway Age

With which are incorporated the Railway Review, the Railway Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 121 September 21, 1946 No. 12

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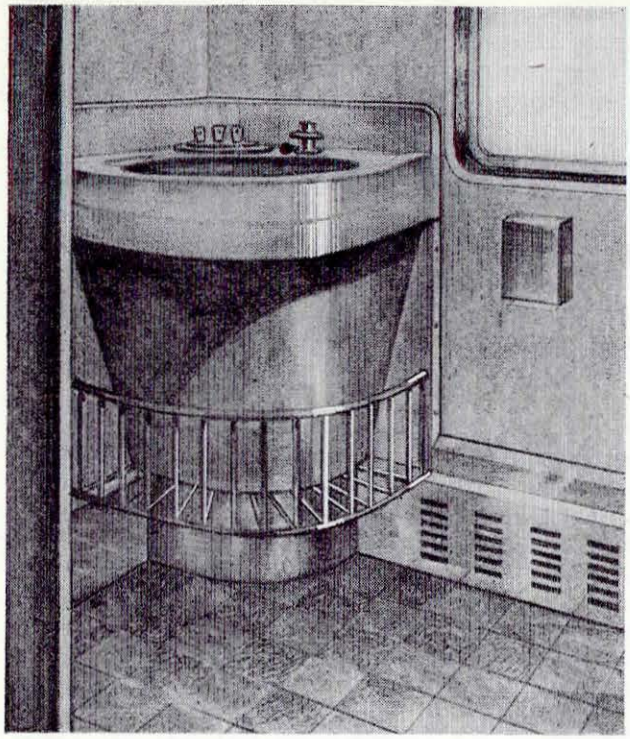

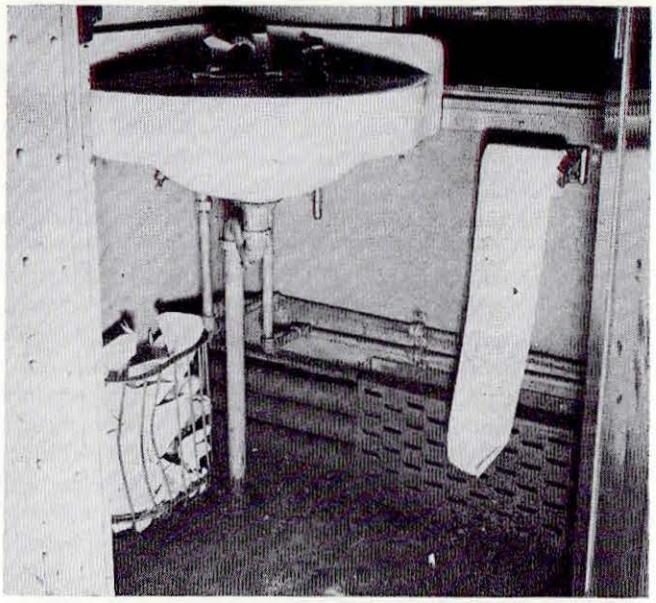

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One Aspect of Coach Modernization

Three specific suggestions by which unsightly washrooms may be improved at a reasonable expenditure

By ROBERT DOULTON STOTT

Partner, Beeston-Stott-Patterson, Industrial Designers

AT America's present slow rate of industrial recovery following the war, the country's railway passenger-car builders had been able to deliver in the first seven months of 1946 only 188 cars to equipment-hungry Class I railroads who now have nearly 3,000 units on rush order. At this rate, passenger cars currently on the books of equipment builders will take over seven years to deliver. And still the end would not be in sight, because besides the day-to-day additional orders, 32 railroads have signified a long-range interest in buying at least 10,000-15,000 passenger cars costing roughly $100,000,000. Even if the equipment-building industry reaches its maximum output of 4,500 passenger cars annually, it would take all of three years of uninterrupted, top-speed production to catch up with demands.

In the meantime, thoughtful railroad management is having a difficult time improvising until new cars are delivered in quantity. Instead of being able to go ahead full tilt on this summer's post-war tourist business, it was noted in the August 16 issue of Printer's Ink that larger lines like the Santa Fe, Burlington and Illinois Central have had to take cognizance of retarded deliveries of new equipment and change their advertising copy to conform.

The railroads are asking themselves: "What can we do within the bounds of common sense to let us go out after the volume passenger business while bridging this new equipment gap?"

One workable answer is the economical renovation of existing equipment which has several years of good life left. Take day coaches, for instance. Expenditure of somewhere around $1,000 each for materials and installation on the antiquated wash rooms in day coaches would do two things immediately: (1) bring more comfort and consequently more customers to these now outmoded cars; (2) lengthen the life of the modernized equipment by five or six years—or long enough to keep the customers happy until new equipment is available. Since reasonably good seats and often air conditioning are the rule on many of these older coaches, renovation expense could be cut to a minimum by limiting it to the cramped, hard-to-clean wash rooms.

To give actual examples of the way railroads can carry out this modernization project without diverting too much money or materials from their new equipment programs, this article is accompanied by three sets of before-and-after pictures of an actual day-coach washroom. The coach photographed is air-conditioned and on a regular long-haul passenger run, yet the "before" pictures show why a passenger might take one look at the wash room and decide to go next time by bus or plane. This seems to be a penny-wise, pound-foolish concept, spending $8,000 to air-condition a car when $1,000 more spent on the wash room would make the car up-to-date.

Three major areas of redesigning and modernization are shown in the photographs and corrective sketches. The modernization, to be economical and quickly completed, should confine itself generally to a simple revision of existing fixtures, making better use of present floor space and accenting sanitation by eliminating dirt-catching areas.

Descriptions of specific points to be improved and the means for improving

Railway Age

With which are incorporated the Railway Review, the Railway Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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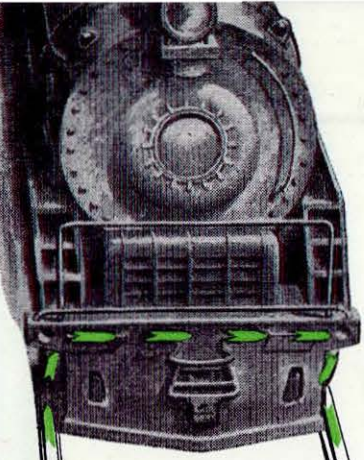

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Since its first installation in 1928, "Union" Centralized Traffic Control has effectively proved its value as a method of directing trains by signal indication.

For twelve years, "Union" Coded Track Circuit Control has demonstrated on thousands of miles of track its advantages over steady-energy track circuit systems.

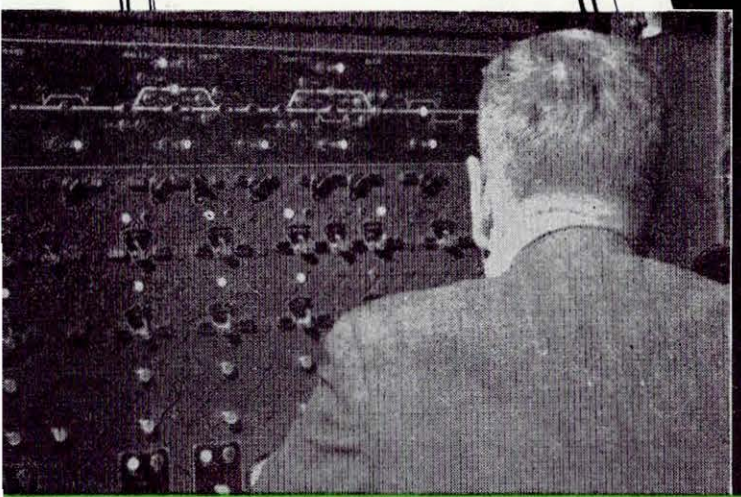
About six years ago, the two were first combined in a single installation.

Today, 27 installations are in actual service and the effectiveness of the combination of these modern systems has been proved in nearly 1500 track miles of C.T.C. territory.

For additional information, just write or call our nearest district sales office.

RAILROAD	LOCATION	TRACK MILES
B. & L. E.	Filer—Meadville Jct.	88.6
C. M. St. P. & P.	Manilla—Council Bluffs	60 **
	Laredo—Polo	51
	Glencoe—Milbank	139
	Mendota—Faribault	46.6
	Aberdeen—Mobridge	98.2 *
	Mobridge—Marmarth	190.1 *
	Miles City—Melstone	111.6 *
C. R. I. & P.	Blue Island—Joliet	48.3
	Rockdale—Morris	40.4
	Bureau—Spring Valley	25.6
	Silvis—Atkinson	48.0
	Fort Worth—Dallas	31.8
	Herington—Caldwell	123.0 *
	Caldwell—El Reno	108.0 *
Erie	Cuba Jct.—River Jct.	32.6 **
L. & N.	Brentwood—N. Athens	92 **
	Lebanon Jct.—Sinks	107 **
N. & W.	Forest—Phoebe	20.0
	Poe—Jack	6.8
P. R. R.	Machias—J K Tower	28
	Hudson—Arlington	11.5
	Norwood Heights—Richmond	51
	Red Bank—Oil City	52.3
	Vail—East Beech	44.5
St. L. S. W.	Illmo—Dexter Jct.	60
Wabash	Decatur—Starnes	35
	Moberly—Clapper	39.5
	Clapper—Hannibal	28.0
	Springfield—Jacksonville	31
	Decatur	2.4
Western Pacific	Oroville Yard—Portola	114

* Installation under construction. ** Coded detector track circuits only.



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SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

OPERATING WITH RADIO: Results of tests of Western Electric very high frequency radio apparatus in end-to-end of train and train-to-wayside station communication in mountainous territory on the Northern Pacific are reported on page 479, along with a description of the equipment used. It was estimated that the more efficient operation which was possible with the radio in service, especially where helpers were cut in long freight trains, brought about a substantial reduction in the time required to get trains over the road, at the same time minimizing the possibility of trains breaking apart due to poor coordination between enginemen.

●

MODERNIZING: While railroads—and their customers—are awaiting delivery of new passenger train equipment they may be able, at relatively little expense, to put the cars they are now using in more attractive (i.e., more profitable) condition, says Designer Robert Doulton Stott in an article in this issue. He suggests that modernization of many coach wash rooms and toilet facilities is past due, and that a modest outlay per car would produce results impressive to travelers who are becoming a bit particular again about the provisions that are made for their comfort.

●

$732 MILLION SPENT: Class I railroads spent $732 million in the first half of this year for materials, supplies and fuel, not including equipment, according to data presented in this issue. Even so, purchases were far below requirements in important categories, and the total expenditures unquestionably would have been substantially greater if strikes and material shortages had not curtailed the output of many suppliers. A still more effective deterrent to generous outlays, of course, is the uncertain financial position the railroads find themselves in.

●

SAFETY DEVICES: A recent train accident, the details of which are set forth in a news story this week, reporting the Interstate Commerce Commission's findings, afforded a particularly instructive opportunity to determine the relative value in the promotion of safety of various types of equipment developed at least in part for that purpose. In the territory involved trains were operated by cab signal indications, and locomotives were equipped with telephones for train-to-train and train-to-wayside station communication.

●

STRANGE COINCIDENCE: Those who may have harbored an idea that the reports and recommendations of the late lamented Board of Investigation and Research were destined to languish undisturbed on the shelves of congressional storerooms have been shown the error of their ways. The name of one "peculiarly qualified" member of this defunct agency has continued on the public payrolls, and one result of that circumstance has been a report to the special Senate small business committee recommending modifications of the national transportation policy and proposing the establishment of additional government agencies and offices for the administration of that policy. Our news pages summarize the apologetics with which the committee undertakes to correlate the nation's transportation policy with *small* business. They further indicate that there is somewhat more than a superficial similarity between the proposals now put forth as the ostensible result of costly "research" and those which the B. I. R. demised to posterity upon its reluctant departure from this vale.

●

HIDING THEIR LIGHT—: It has been the railroads' policy, generally speaking, to keep their troubles out of the newspapers, and instead to take their complaints and proposals to the appropriate official agencies for disposition on their merits. As the leading editorial comments this week, the trouble with that policy is that it has not worked. It has not worked because many of the agencies the railroads must deal with are administrative or legislative agencies, more responsive to political considerations than to abstract evidence and legal arguments. The railroads did not effectively take their case against the Crosser bill to the public, and a Congress conscious of union political power passed the bill in an atmosphere of public unconcern. The railroads have not effectively taken their cases against subsidized competition to the public, and immense outlays of tax money continue to go into roads, airports and waterways which commercial users enjoy without adequate compensation. The railroads have not effectively taken their cases for adequate rates to the public, and the Interstate Commerce Commission, fearing criticism from an uninformed citizenry if the railroads should be prosperous, has consistently held railroad rates at levels so low that the industry has not been able to attract equity capital to finance the expansion and betterments needed to produce the most efficient transportation service. The railroads themselves are responsible for the public's lack of understanding of the plight they are in now, and the railroads' future depends upon the promptness and thoroughness with which the public is properly informed.

●

WATERWAYS, TOO: Another field in which the railroads have lost the ball on downs with no gains is in their program to curtail the continued extension of uneconomic inland waterways. This Congress, facing an election this fall, has authorized the expenditure of another billion dollars of the taxpayers' money for more ditches and "improvements" so a few shippers can have their freight moved without paying what the service costs. As an economy gesture Mr. Truman has held up a part of the spending program temporarily, but even that postponement has stirred up a hornets' nest of protest. What are the railroads telling the public that pays the bills about the futility and exorbitant costs of these waterway projects? An editorial this week discusses this timely question.

SLOW MOTION: Further testimony in Ex Parte 162, the general rate case, was taken in Washington this week, and is reported in the news columns. As usual, there were shippers, and government witnesses claiming to speak for shippers, who urged the commission to fix things so that rate increases, if and when ordered, would not apply to the commodities in which they deal. To further inform an expert body that already is well provided with statistics and forecasts, the railroads presented more figures to show how their costs have been raised and how critical their financial position will be in 1947 if the full increase they are seeking is not authorized. The Pennsylvania, for example, showed that, on the basis of increased rates, its results next year would be the worst in its entire history. Several major railroads showed they still will have a deficit in 1947 even if the full increase is approved, and even though record-breaking peace-time traffic is expected. Yet the commission proceeds with monumental deliberation to ponder over the railroads' need for larger revenues, as if it were a purely academic question instead of one involving the financial stability and the future welfare of a great industry.

●

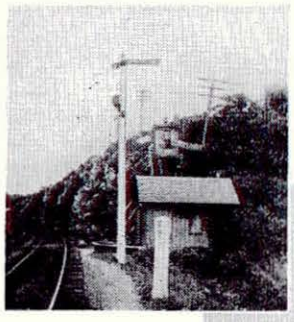
WOOD PRESERVERS' DATA: One of this issue's articles gives the figures for 1945 on the operations of the wood preserving industry, with particular emphasis on those parts of the record that are significant to the railroads, that industry's chief consumer. While the total output of the preservers' plants last year was only a trifle more than in 1944, there were considerable fluctuations from one year to the other in the quantities of some varieties of timber subjected to treatment.

●

A TEST CASE: Early next week it will be known whether the Long Island's employees who belong to the miners' union will go on strike. The company has offered them the wage increase the regular railroad brotherhoods accepted (some of them under duress, to be sure). John L. Lewis' spokesmen have been holding out for a larger wage increase and for rule changes as well. A Presidential "emergency" board has been going through the formality of holding hearings to find the "facts," some of the developments being reported this week in the news. It is not impossible that the recommendations of the board, and the reaction to those recommendations of the railroad, of the federal government, of Mr. Lewis, and of the established railroad brotherhoods, may contribute to the making of history in the field of railroad labor relations.

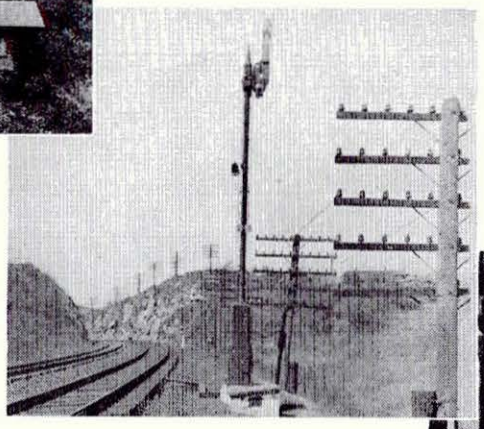
●

NEWS IN BRIEF: Pullman's passenger traffic manager says the new rules on refunds on canceled space are working effectively. . . . August gross was 6.7 per cent under last year. . . . The I. C. C. is gathering waybills to support its traffic movement studies. . . . J. R. Jackson is the new A. A. R. Mechanical Division mechanical engineer. . . . Colonel Johnson and A. A. R. President Pelley got a Navy citation.



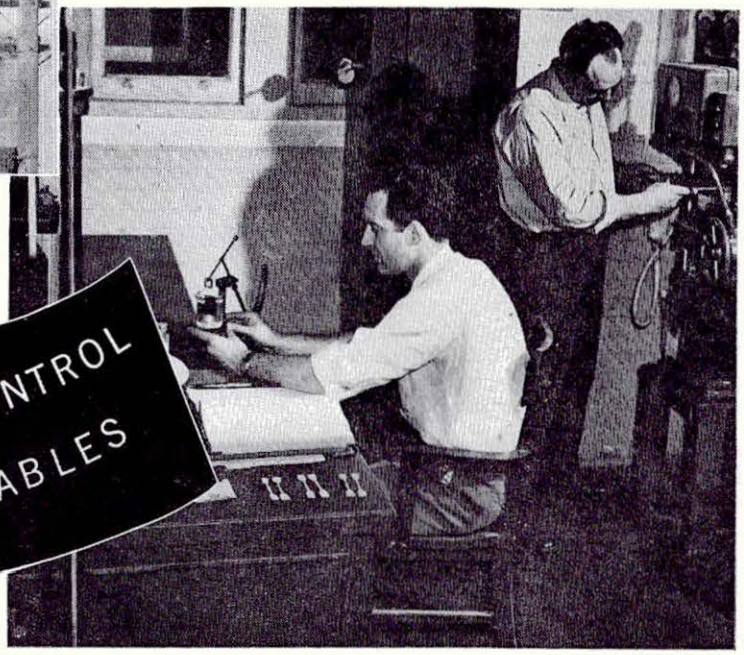
GOOD THEN

America's first low voltage, motor-operated, automatic semaphore signal. Okonite was used in 1893 to supply its power.



BETTER NOW

1946 — Now become a modern, high-speed signal, this electric semaphore protects the same location, its power still supplied through Okonite wire.



STILL BETTER TOMORROW

OKONITE'S INSULATION CONTROL MEANS LONG-LIVED CABLES

If you select railroad signal wires and cables for their long life and freedom from service interruptions, Okonite's insulation control room (shown here) is a good example of the steps taken to meet your requirements.

Here a sample from each batch of insulation compound is vulcanized on the spot and tested before further use. It is a logical follow-up of other careful processing – such as the washing and aging of the Up-river fine Para rubber, the adding of "balancing" ingredients, paper-thin calendering to get smoother texture. Control-room care sets the stage for later foot-by-foot inspection made while strips of compound slit from calendered sheets are being spliced. A further complete visual inspection is permitted by Okonite's strip process as the insulation strips are folded about the conductor, prior to vulcanization in a continuous metal mold.

Railroad men understand the value of working with an Okonite engineer in determining just the right types of Okonite wires and cables for each specific branch of service demand including signaling, communications, power and lighting. The Okonite Company, Passaic, New Jersey.

4728

OKONITE SINCE 1878 **insulated wires and cables**

RAILWAY AGE

Railways Should Inform the Public

The railways should adequately and immediately present to the public as well as to the Interstate Commerce Commission their case for an advance in freight rates. The public must pay the bill. It must pay it in rates if rates are made high enough. It must pay it in poor service and chronic shortages of transportation if rates are not made high enough. Therefore, the railways should broadcast to the public all the reasons why they are asking the Commission to authorize them to charge higher rates.

An Administrative (i.e., Political) Agency

The most important reason why the Commission has helped create the present dangerous transportation situation has been its fear of public sentiment. It has never feared public condemnation for unduly restricting railway rates and net earnings. It has always feared public condemnation for letting the railways earn too much. And it has had apparent reason for this fear. There has never been so much exaggeration and lying about the net earnings of any industry as about those of the railways. Over and over again politicians and labor leaders have cited exceptionally high earnings as typical or publicized statements of earnings that were half-truths or downright false, and criticized the Commission for letting such earnings be made. Seldom or never have the railways sufficiently publicized understandable and convincing refutations of these misrepresentations; and they have had no policy and method of keeping their employees and the public continuously informed regarding the earnings actually made by them, the earnings they have needed, and why they have needed them. It has been an inevitable consequence that the Commission has had more fear of public condemnation for letting the railways earn too much than for preventing them from earning enough.

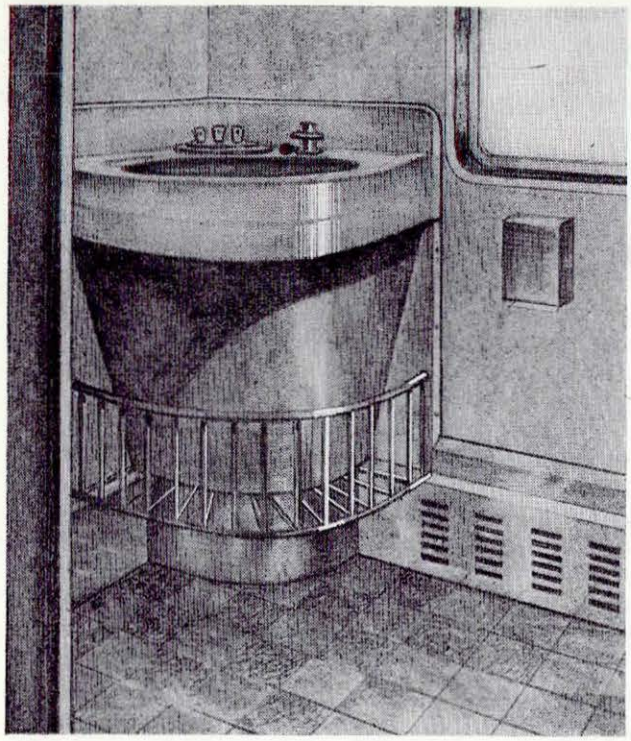
Many, including not a few railway men, are disposed to say that rate cases should be tried before the Commission and not in the newspapers. Like many theories, this would be a good one if it would work. But almost unbroken experience throughout the thirty-six years since the Mann-Elkins Act empowered the Commission to suspend and prevent proposed advances in rates proves that the theory simply does not work. It assumes the Commission is an impartial, expert and judicial body which is immune from the influence of public sentiment. The Commission is not and never has been such a body. It is an administrative body; and the record proves that most of its members have not been appointed or re-appointed because of their expert knowledge and impartiality, and that they have been influenced in important rate cases quite as much by the way the winds of public opinion and politics were blowing as by evidence and arguments.

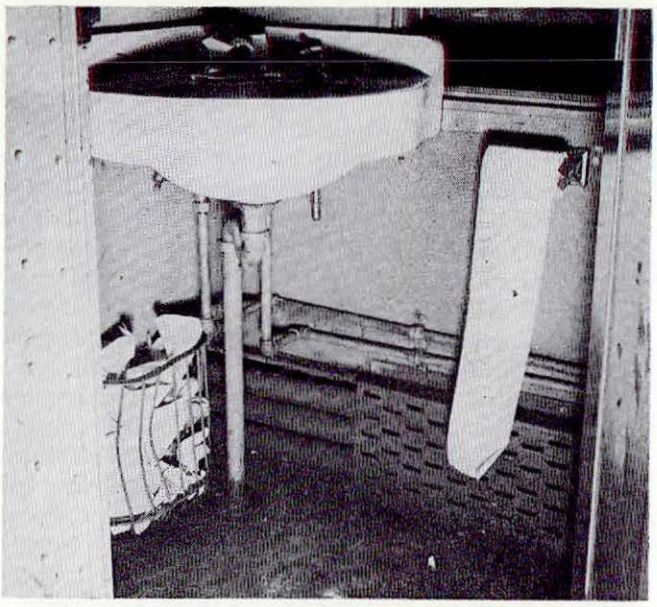
The railways are in the midst of a great crisis. They will need to make enough gross earnings during the decade beginning with 1946 to enable them fully to maintain their properties, and to yield an average of not less than $1 billion net operating income annually without which needed rehabilitation, improvement, and expansion will be impossible. They cannot earn this *average* unless in years of heavy traffic and large gross earnings such as 1946 they are allowed to earn much more than $1 billion.

Allowing for retrenchments in maintenance which it should not have been necessary to make, the railways earned almost no net operating income in the first half of 1946 before the six per cent advance in freight rates. They have reported for July, after this advance in rates, net operating income of less than $63 million. The fact that in spite of the huge increases in wages made, the total operating expenses reported for July, 1946, were smaller than for July, 1945, shows that a large part of the net reported for July, 1946, was "phony." And, even without undesirable retrenchments, $63 million would have been an extremely poor result for July.

Worse than the Depression

The railways earned $65 million net operating income in July, 1933, at the bottom of the depression! In the ten peace-time years ending with 1930 net operating income averaged $1,017 million annually, and in those years net operating income in July averaged 8.9 per cent of annual net operating income. On the basis of these figures, the $63 million reported for July, 1946, was at an annual rate of only $708 million, although traffic and gross earnings are now the largest ever reported in time of peace. When net operating income was $1,276 million in the year 1929, it was $124 million in July.





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Three specific suggestions by which unsightly washrooms may be improved at a reasonable expenditure

By ROBERT DOULTON STOTT

Partner, Beeston-Stott-Patterson, Industrial Designers

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One workable answer is the economical renovation of existing equipment which has several years of good life left. Take day coaches, for instance. Expenditure of somewhere around $1,000 each for materials and installation on the antiquated wash rooms in day coaches would do two things immediately: (1) bring more comfort and consequently more customers to these now outmoded cars; (2) lengthen the life of the modernized equipment by five or six years—or long enough to keep the customers happy until new equipment is available. Since reasonably good seats and often air conditioning are the rule on many of these older coaches, renovation expense could be cut to a minimum by limiting it to the cramped, hard-to-clean wash rooms.

To give actual examples of the way railroads can carry out this modernization project without diverting too much money or materials from their new equipment programs, this article is accompanied by three sets of before-and-after pictures of an actual day-coach washroom. The coach photographed is air-conditioned and on a regular long-haul passenger run, yet the "before" pictures show why a passenger might take one look at the wash room and decide to go next time by bus or plane. This seems to be a penny-wise, pound-foolish concept, spending $8,000 to air-condition a car when $1,000 more spent on the wash room would make the car up-to-date.

Three major areas of redesigning and modernization are shown in the photographs and corrective sketches. The modernization, to be economical and quickly completed, should confine itself generally to a simple revision of existing fixtures, making better use of present floor space and accenting sanitation by eliminating dirt-catching areas.

Descriptions of specific points to be improved and the means for improving

RAILWAY AGE

Railways Should Inform the Public

The railways should adequately and immediately present to the public as well as to the Interstate Commerce Commission their case for an advance in freight rates. The public must pay the bill. It must pay it in rates if rates are made high enough. It must pay it in poor service and chronic shortages of transportation if rates are not made high enough. Therefore, the railways should broadcast to the public all the reasons why they are asking the Commission to authorize them to charge higher rates.

An Administrative (i.e., Political) Agency

The most important reason why the Commission has helped create the present dangerous transportation situation has been its fear of public sentiment. It has never feared public condemnation for unduly restricting railway rates and net earnings. It has always feared public condemnation for letting the railways earn too much. And it has had apparent reason for this fear. There has never been so much exaggeration and lying about the net earnings of any industry as about those of the railways. Over and over again politicians and labor leaders have cited exceptionally high earnings as typical or publicized statements of earnings that were half-truths or downright false, and criticized the Commission for letting such earnings be made. Seldom or never have the railways sufficiently publicized understandable and convincing refutations of these misrepresentations; and they have had no policy and method of keeping their employees and the public continuously informed regarding the earnings actually made by them, the earnings they have needed, and why they have needed them. It has been an inevitable consequence that the Commission has had more fear of public condemnation for letting the railways earn too much than for preventing them from earning enough.

Many, including not a few railway men, are disposed to say that rate cases should be tried before the Commission and not in the newspapers. Like many theories, this would be a good one if it would work. But almost unbroken experience throughout the thirty-six years since the Mann-Elkins Act empowered the Commission to suspend and prevent proposed advances in rates proves that the theory simply does not work. It assumes the Commission is an impartial, expert and judicial body which is immune from the influence of public sentiment. The Commission is not and never has been such a body. It is an administrative body; and the record proves that most of its members have not been appointed or re-appointed because of their expert knowledge and impartiality, and that they have been influenced in important rate cases quite as much by the way the winds of public opinion and politics were blowing as by evidence and arguments.

The railways are in the midst of a great crisis. They will need to make enough gross earnings during the decade beginning with 1946 to enable them fully to maintain their properties, and to yield an average of not less than $1 billion net operating income annually without which needed rehabilitation, improvement, and expansion will be impossible. They cannot earn this *average* unless in years of heavy traffic and large gross earnings such as 1946 they are allowed to earn much more than $1 billion.

Allowing for retrenchments in maintenance which it should not have been necessary to make, the railways earned almost no net operating income in the first half of 1946 before the six per cent advance in freight rates. They have reported for July, after this advance in rates, net operating income of less than $63 million. The fact that in spite of the huge increases in wages made, the total operating expenses reported for July, 1946, were smaller than for July, 1945, shows that a large part of the net reported for July, 1946, was "phony." And, even without undesirable retrenchments, $63 million would have been an extremely poor result for July.

Worse than the Depression

The railways earned $65 million net operating income in July, 1933, at the bottom of the depression! In the ten peace-time years ending with 1930 net operating income averaged $1,017 million annually, and in those years net operating income in July averaged 8.9 per cent of annual net operating income. On the basis of these figures, the $63 million reported for July, 1946, was at an annual rate of only $708 million, although traffic and gross earnings are now the largest ever reported in time of peace. When net operating income was $1,276 million in the year 1929, it was $124 million in July.

The Interstate Commerce Commission and the public should not need any facts but the foregoing to convince them that the railways, on the present basis of rates, are earning only about half the net operating income that they should be earning, and that they should be given a substantial advance in rates as promptly as possible.

Railway managements have a duty to railway owners and the public that nobody else can perform. That duty is to use every available and necessary means that is lawful to inform the public as well as the Commission regarding the crisis with which the railways are confronted.

Classified Diesel Repairs

When it was urged before the Mechanical Division of the Association of American Railroads at its Chicago meeting in August that a system of shopping Diesel power on a locomotive-mileage basis, much the same as that long employed with steam locomotives, was needed, the proposal aroused no great amount of interest. This suggestion was critically examined in an editorial in our August 24 issue, page 330.

Now, however, a committee of the Locomotive Maintenance Officers' Association has presented a report, at a meeting in Chicago on September 5, which not only raises the question again, but in its report goes so far as to recommend the establishment of a system of repair classifications for Diesel-electric locomotives patterned directly after the classification, adopted about 1924, for steam locomotives and, further, to outline what, in the opinion of the members of the committee, such a classification system should be.

When it is considered, from a mechanical and electrical standpoint, what a Diesel-electric locomotive actually is, as compared with a steam locomotive, we must confess that it is extremely difficult to visualize any common ground upon which a repair classification system based upon that now in use with steam power could possibly be made applicable to the more modern form of power.

A steam locomotive consists essentially of a boiler, a frame and an engine. Years ago, before the advent of modern materials and lubrication, a steam locomotive was shopped when its frame worked loose and the running gear became worn beyond certain limits. When the locomotive was shopped the boiler was overhauled at the same time. More recently, since the days of high power ratings, the boiler has been the controlling factor in the shopping time and the running gear has been overhauled at the same time. Experience over many years has enabled the roads to set assigned mileages for different classes of power and, when these mileages are run out, the locomotive is shopped for general, or other classified repairs. The point is that with a steam locomotive the entire unit requires a general overhauling at about the same time, measured by the total number of miles.

The Diesel, on the other hand, consists of an underframe, power trucks, an engine with auxiliaries, and electrical equipment—generators, controls and traction motors. Looking at these several major parts of a Diesel locomotive, it is obvious that no two of them require shopping at the same time. That is why we have the progressive system of Diesel maintenance.

In the discussion of the L.M.O.A. report at Chicago one chief mechanical officer remarked that "it begins to look as though we have made a mistake in ever letting a steam locomotive man have anything to do with a Diesel" for "now they want to handicap the Diesel with the same time-consuming shopping system that has reduced the serviceability of steam power." This speaker raised the question as to why, when we have a locomotive that can be maintained by current replacement of parts, or major assemblies, we should consider shopping the locomotive as a whole unit at stated periods, on a mileage basis, for a general overhauling. Considering their availability under current maintenance practices, certainly the burden of proof rests on the advocates of classified repairs for Diesels.

Ineffective Opposition to Uneconomic Waterways

The railroads' defensive program against the continued extension of uneconomic inland waterway projects has been a flat failure—as is clearly indicated by the fact that authorizations for such ventures are continually increasing, involving projects in which the ratio of wastefulness is getting larger all the time. If some more effective means cannot be found for combatting this disastrous development, it might be the course of wisdom, at least to save a little money for the railroads, for them to withdraw all opposition to these projects.

In spite of all the arguments and eloquence the railroads could muster—or, at any rate, *did* muster—the recent Congress proceeded to authorize the construction of such fantastic pork-barrel monstrosities as the Tombigbee canal, the canalization of the Red river, and the additional widening of the Calumet-Sag canal. In this day of persistent federal deficits and a tax load on individual and business incomes which plainly amounts to confiscation, these politicians—at the insistence rather than the opposition of business interests who hypocritically demand "economy in government"—voted to pour another billion of the taxpayers' money down this bottomless waterways rat-hole. The shameless purpose of every one of these projects is to relieve favored shippers from the obligation to pay their own freight bills and to shift a large part of such charges to the backs of the taxpayers, most of whom already have more to carry than they can bear; and to accomplish this embezzlement of tax funds (for embezzlement is what it amounts to, economically and ethically, although not legally, of course) by means of the most costly method available rather than by the most economical.

The protagonists of inland waterways improvements invariably underestimate construction costs and overestimate traffic volume—and the unreliability of their estimates in the past, if adequately revealed, would disqualify their calculations in attempted justification of additional projects. But the railroad opponents of

these ventures seldom take the trouble to present the specific statistics of past performance which would provide the most effective refutation of optimistic claims made in behalf of further proposals. Very little argument is needed against these waterways; the statistics prove their futility more effectively than any rhetoric could do it. Nevertheless, those who follow closely the railroads' handling of these cases advise us that the railroads usually content themselves with merely questioning the estimates, when specific statistical data would repudiate them completely.

Whatever might be said, however, in defense of the adequacy of the railroads' presentation of the case against inland waterway development, it certainly cannot be contended that they lay their evidence before the proper court. That is to say, the railroads' objections to these waterways usually are presented at hearings by the Army engineers or Congressional waterways committees, i.e., to bodies already heavily prejudiced in favor of these expenditures and indisposed to weigh the evidence against them. The audience which, primarily, should be getting the statistics and the arguments against these waterways is the general public, or at least the articulate and literate part of it. The legislator is not interested in evidence of the merits in a controversial issue; the evidence which moves him is that which shows him what most of his constituents want him to do. It would take the expenditure of increased effort and money to carry the fight on these wasteful and harmful waterway projects right to the people and the localities that are inclined to favor such developments. However, no fight is hopeless for the side which has the facts with it. The reason this side so often gets licked is that it does not work as hard as its opponents.

One further hindrance to effective opposition to uneconomic waterways development lies in the fact that the Department of Justice is suing the railroads for alleged violation of the anti-trust act; and that one of the items in its complaint asserts that the railroads have acted jointly to foster legislation inimical to competing forms of transportation. The Constitution accords to the people the right "peaceably to assemble and to petition the government for a redress of grievances"; but until the courts have decided whether the Constitution or the opinion of Assistant Attorney General Wendell Berge is the law of the land, joint action by the railroads in the interest of legislation to which their competitors may object can scarcely be expected to be very vigorous. Not even Mr. Berge has suggested, however, that an *individual railroad* need suppress economic information which might incidentally injure a competitor while advancing the public interest.

What's Ahead for the Railroads?

Experience has demonstrated beyond doubt that the way to better transportation service and lower transportation rates is through investment in better railroad plant and facilities. Twenty-five years ago, the average charge for hauling a ton of freight one mile in the United States was 1.275 cents. Now, and for some years past, it has been less than one cent. Twenty-five years ago, the average charge for carrying a passenger a mile was more than three cents. Now, and for some years past, it has been considerably less than two cents. And while the average charge has thus come down, the adequacy and dependability of the service has been improved immeasurably.

Such results have been made possible by research and invention, by technological progress in every phase of railroading—but back of the progress has been the faith to invest billions of dollars in building the better railroads which have made it possible to render better service and sell it at lower rates and fares.

In those twenty-five years, the railroads spent more than $13,000,000,000 of railroad money in such improvements. This money—half a billion dollars a year on the average—has gone into better tracks and structures, better locomotives and cars, better shops and signals, better plant and equipment in every department of railroading.

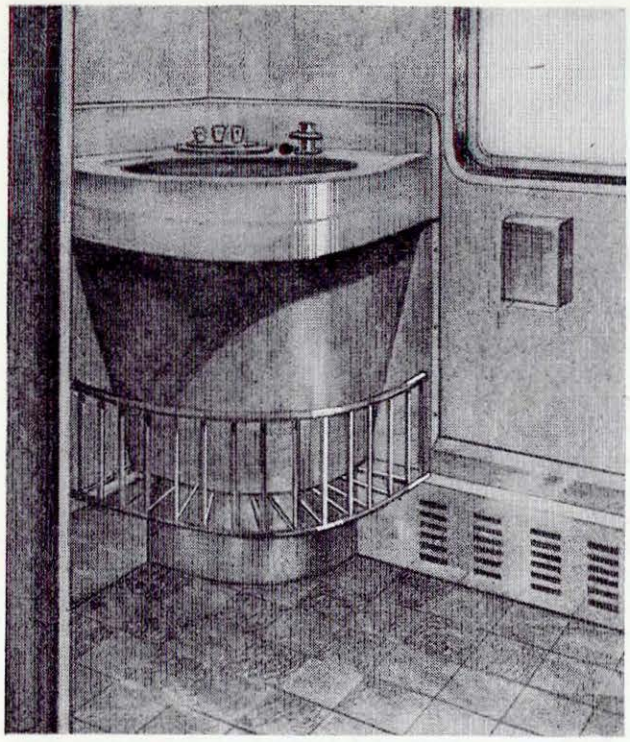
This money—railroad money—was invested in the reasonable and proper hope that such investment would earn and pay a profit. And in terms of lowered rates and better service to the public, and of better jobs and higher wages for railroad men, this investment of railroad money did earn a profit, while the contribution which it made to the defense of the nation and to victory in the war is beyond all calculation.

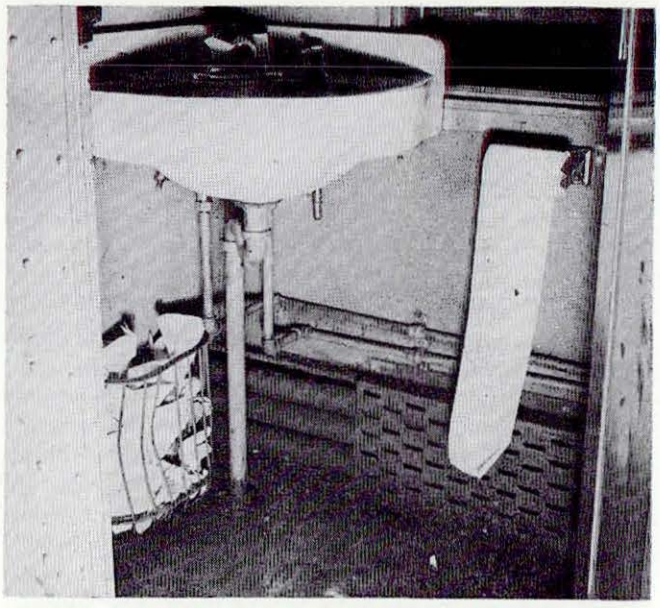
But the profit which it earned for the security holders of the railroads who made the investment is neither great nor difficult to calculate. During the war years—the time when railroads rendered their greatest service, carried their heaviest traffic, and took in their largest revenues—the total return on capital invested in the railroads averaged less than five per cent per year. The interest, rentals and other fixed charges paid to those who had loaned money to the railroads was about the same as the amount paid thirty years ago, when railroad investment was not much more than half what it is now. And the amount paid out in dividends to the stockholders who own the railroads averaged, during the war years, less than three per cent on the capital stock outstanding.

These are important facts to bear in mind in considering what's ahead for the railroads—and, for that matter, what's ahead for the country. For never since we have had railroads has there been such a thing as general and sustained prosperity in this country when railroads were not prospering. And railroads are not prospering today. Already this year, they have drawn upon their cash reserves to the extent of more than $300,000,000 to meet expenses which present-day rates are not adequate to cover.

If this country had no further need of its railroads, and did not need their continuing improvement in the future, such a situation might be regarded as of concern only to railroad investors. But America needs its railroads, and must have railroads which are even better than those of today, for American agriculture, industry and commerce rest upon the foundation of continent-wide, year-round, dependable, economical mass transportation on tracks.

—Robert S. Henry, assistant to president, Association of American Railroads, in an address to the Rotary Club of Detroit, Mich.





Above—A typical case: Exposed plumbing—Radiator pipes partially exposed—Battered waste receptacle. Left—Same basin with stainless under enclosure, novel waste receptacle, and concealed pipes

One Aspect of Coach Modernization

Three specific suggestions by which unsightly washrooms may be improved at a reasonable expenditure

By ROBERT DOULTON STOTT

Partner, Beeston-Stott-Patterson, Industrial Designers

AT America's present slow rate of industrial recovery following the war, the country's railway passenger-car builders had been able to deliver in the first seven months of 1946 only 188 cars to equipment-hungry Class I railroads who now have nearly 3,000 units on rush order. At this rate, passenger cars currently on the books of equipment builders will take over seven years to deliver. And still the end would not be in sight, because besides the day-to-day additional orders, 32 railroads have signified a long-range interest in buying at least 10,000-15,000 passenger cars costing roughly $100,000,000. Even if the equipment-building industry reaches its maximum output of 4,500 passenger cars annually, it would take all of three years of uninterrupted, top-speed production to catch up with demands.

In the meantime, thoughtful railroad management is having a difficult time improvising until new cars are delivered in quantity. Instead of being able to go ahead full tilt on this summer's post-war tourist business, it was noted in the August 16 issue of Printer's Ink that larger lines like the Santa Fe, Burlington and Illinois Central have had to take cognizance of retarded deliveries of new equipment and change their advertising copy to conform.

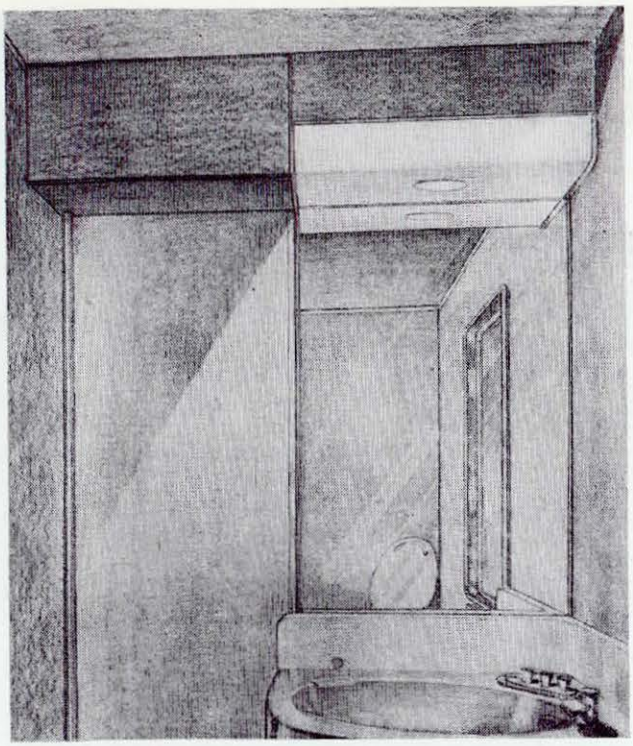
The railroads are asking themselves: "What can we do within the bounds of common sense to let us go out after the volume passenger business while bridging this new equipment gap?"

One workable answer is the economical renovation of existing equipment which has several years of good life left. Take day coaches, for instance. Expenditure of somewhere around $1,000 each for materials and installation on the antiquated wash rooms in day coaches would do two things immediately: (1) bring more comfort and consequently more customers to these now outmoded cars; (2) lengthen the life of the modernized equipment by five or six years—or long enough to keep the customers happy until new equipment is available. Since reasonably good seats and often air conditioning are the rule on many of these older coaches, renovation expense could be cut to a minimum by limiting it to the cramped, hard-to-clean wash rooms.

To give actual examples of the way railroads can carry out this modernization project without diverting too much money or materials from their new equipment programs, this article is accompanied by three sets of before-and-after pictures of an actual day-coach washroom. The coach photographed is air-conditioned and on a regular long-haul passenger run, yet the "before" pictures show why a passenger might take one look at the wash room and decide to go next time by bus or plane. This seems to be a penny-wise, pound-foolish concept, spending $8,000 to air-condition a car when $1,000 more spent on the wash room would make the car up-to-date.

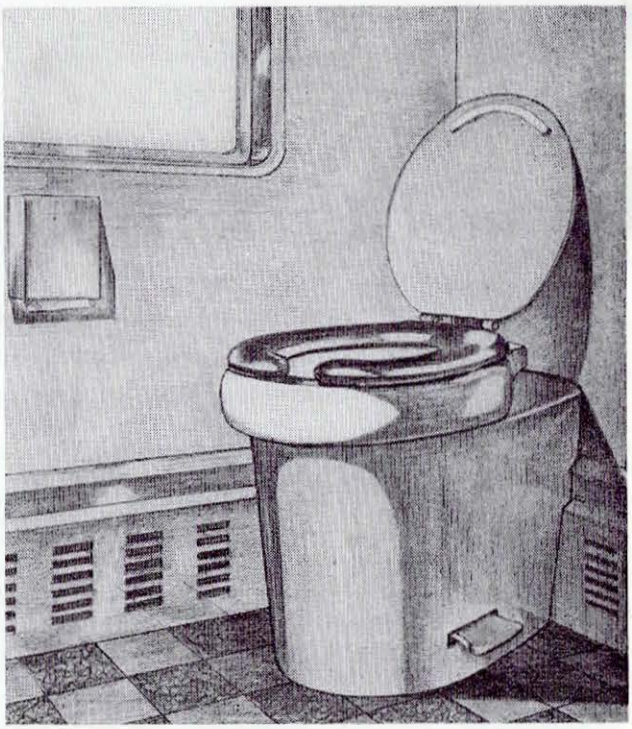
Three major areas of redesigning and modernization are shown in the photographs and corrective sketches. The modernization, to be economical and quickly completed, should confine itself generally to a simple revision of existing fixtures, making better use of present floor space and accenting sanitation by eliminating dirt-catching areas.

Descriptions of specific points to be improved and the means for improving



Above—Upper pipes and valve concealed behind hinged cover. Vertical pipe is placed in the corner. Wall is surfaced to hide rivet heads. Below—Unattractive exposed piping. A dirt-catching corner

Above—Conspicuous pipes and exposed screw and rivet heads. Below—More stainless conceals piping and encloses the corner



them in each of these three areas (wash stand, piping and lights, toilet) follow:

Photograph No. 1, Criticisms

(1) Exposed plumbing pipes, both hot and cold water and drain.

(2) Battered towel and wastepaper grill at the floor level in unsightly and inconvenient position.

(3) Rolled toilet paper in position under window to get soiled; also in an unsightly position from the entrance doorway to the lavatory.

(4) The basin is over-sized and overlaps the window jamb and sill.

(5) The pierced cover of the radiator pipes doesn't extend to the corner, thereby exposing the pipes under the lavatory and also allowing cigarette butts and dirt to get behind the pipes.

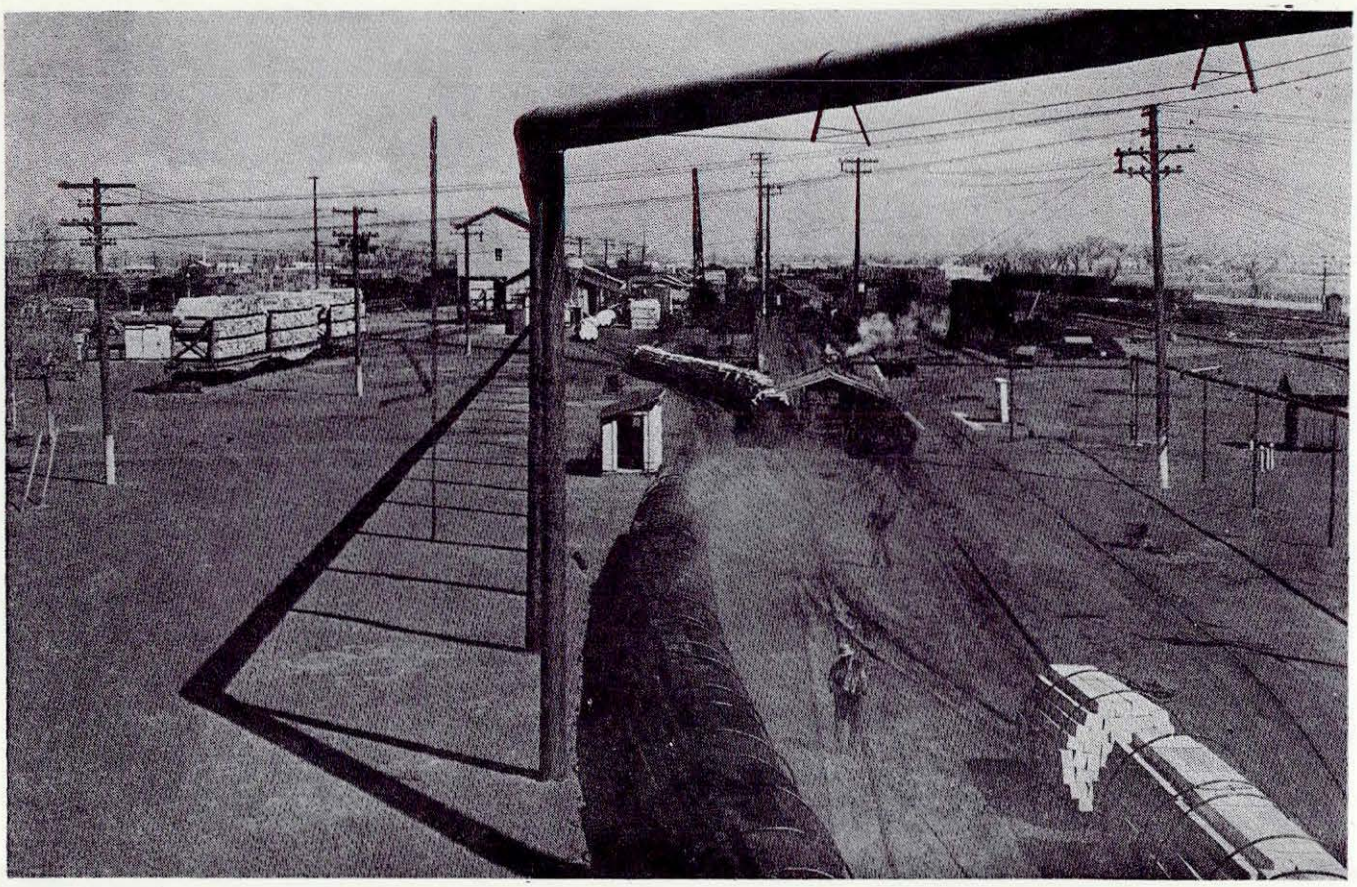
(6) The floor is badly surfaced and in an uneven condition.

Sketch No. 1, Improvements

(1) A stainless-steel enclosure over the sink covers the piping.

(2) The wastepaper grill and towel

(*Continued on page 481*)



Modern treating plants plus improved methods of seasoning and treating are playing an important part in meeting railroad requirements for treated lumber and crossties

Wood Preservation Up Slightly in 1945

Owing to continued restrictions on the private use of forest products and to widespread labor shortages, the industry made only a negligible advance during the year

REFLECTING, in part, war-time restrictions on the use of forest products for private and industrial use and, in part the continued shortages of man-power in all sections of the country, wood preservation made only a negligible gain, less than 1 per cent, in 1945 compared with the output in 1944. This increase, small as it was, was not general, however, for wide fluctuations occurred in most of the eight classifications into which treated wood is divided. For example, the output of poles increased 41 per cent, while crossties decreased 12 per cent.

During 1945 a total of 279,449,934 cu. ft. of wood were given preservative treatment, compared with 277,547,747 cu. ft. in 1944, representing an increase of 1,763,207 cu. ft., or 0.63 per cent, according to figures compiled by R. K. Helphenstine, Jr., Forest Service, United States Department of Agriculture, in cooperation with the American Wood-Preservers' Association.

It is of more than passing interest, however, as indicating the widespread acceptance of treated wood as a material of construction, that, despite the almost negligible gain made in 1945, as a result of the factors mentioned, the amount of wood treated in 1945 has been exceeded only twice since 1930 and only seven times in the 37 years that these statistics have been compiled.

Railways Chief Consumer

As in all previous years since the inception of the wood-preserving industry, 108 years ago, the railways in 1945 maintained their position as the principal consumer of treated wood. While the total consumption of treated wood by the railways has increased steadily during the last 60 years, their annual consumption relative to the total volume of wood treated has dropped from about 95 per cent to about 75 per cent normally, although it fell to about 65 per cent during the two years immediately preceding the war. This decrease did not result from any recession in the use of treated wood by the railways, but rather from increased use by other industries. In 1945 the railways consumed approximately 75 per cent of all of the wood given preservative treatment during that year.

Of the total volume of wood treated, crossties accounted for 140,205,531 cu. ft., a decrease of 18,928,263 cu. ft. compared with the 159,133,794 cu. ft. given

preservative treatment in 1944. Numerically, a total of 46,735,177 crossties were treated in 1945, a decrease of 6,309,421, or 12 per cent, from the 53,044,598 crossties treated in 1944. However, despite the marked decrease in the number of ties treated during 1945, this figure has been exceeded only three times since 1930, including 1942, when a large number of crossties were treated for tracks to serve war plants, training camps and other military facilities. On the other hand, the 1945 figures have been exceeded 13 times in the 37 years covered by these statistics.

Woods That Were Used

Again, in 1945, oak ties ranked first in number, 17,625,011, or 37.7 per cent of the total number treated, having been of this species. Southern pine continued in second place with 10,428,767 ties, or 22.3 per cent of the total. Likewise, Douglas fir remained in third place with 6,081,329 ties, or 13 per cent of the total; and gum retained fourth rank with 4,239,476 ties, or 9.1 per cent of the total number of crossties treated in 1945.

Ties of other woods given preservative treatment during the year, including tamarack, lodgepole pine, birch, maple, beech, ponderosa pine, hemlock and elm, in the order given, aggregated 13.5 per cent of the total, while 2,036,608 crossties, or 0.6 per cent of the total, were of woods other than those mentioned.

Of the total number of crossties treated during the year, 27,329,472, or 58.5 per cent, were treated with straight creosote or with solutions of creosote and coal tar; 19,310,416, or 41.3 per cent, were treated with solutions of creosote and petroleum; 77,755, or 0.2 per cent, were treated with Wolman salts; 4,622 ties, or 0.01 per cent of the total, were treated with pentachlorophenol, which appears for the first time as a preservative for ties; 1,943 ties, or less than 0.005 per cent, were treated with either zinc chloride or chromated zinc chloride; while all other preservatives accounted for 10,969 ties, or 0.02 per cent of the total given preservative treatment during the year. All crossties treated during the year were treated by pressure processes.

During the year covered by the report, 27,926,935 ties, or 59.8 per cent of the total, were adzed and bored prior to treatment; 1,841,053, or 3.9 per cent, were adzed but not bored; 3,654,320 ties, or 7.8 per cent of the total, were bored but not adzed; and 13,312,869 ties, or 28.5 per cent, were neither adzed nor bored.

The quantity of switch ties given preservative treatment in 1945 was 118,785,587 ft. b. m., a decrease of 13,488,551 ft. b. m., compared with the previous year. In this classification also oak ranked first with 69,252,044 ft. b. m., or 58.3 per cent of the switch ties given preservative treatment during the year. Southern pine held second place with 17,882,515 ft. b. m., or 15 per cent of the total; while Douglas fir was again in third place, with 10,490,379 ft. b. m., or 8.8 per cent; and gum remained in fourth place with 9,663,885 ft. b. m., or 8.1 per cent of the total. The remaining 9.8 per cent included maple, beech, birch, tamarack, elm, ponderosa pine, lodgepole pine and a few miscellaneous species.

As was the case with crossties, creosote was most used in the treatment of switch ties, 68.3 per cent having been treated with straight creosote or solutions of creosote and coal tar, while solutions of creosote and petroleum were used for 31.3 per cent of the switch ties treated during the year. The remaining 0.4 per cent was treated with Wolman salts, zinc chloride, chromated zinc chloride, pentachlorophenol and a few miscellaneous preservatives. All switch ties reported in 1945 were treated by pressure processes.

Reversing the trend that has been so marked for several years, the total quantity of piles reported in 1945 amounted to 30,348,341 lin. ft., representing an increase of 3,191,629 lin. ft., or 11.8 per cent, compared with the quantity treated in 1944. Douglas fir retained first place with 16,231,487 lin. ft., or 53.5 per cent of the total quantity of piles given preservative treatment, while southern pine, which for many years exceeded all other species, remained in second place with 13,875,033 lin. ft., or 45.7 per cent of the total. The remainder, or 0.8 per cent of the total, was made up of oak, with 65,991 lin. ft., and miscellaneous species with 175,830 lin. ft. All piles were given pressure treatment, creosote and solutions of creosote and coal tar, and of creosote and petroleum, being used in the treatment of 30,242,841 lin. ft., while the remaining 105,500 lin. ft. were treated with Wolman salts, zinc chloride and a few miscellaneous preservatives. It is also of interest that the quantity of piles treated in 1945 has been exceeded in only three of the 37 years that this record has been kept.

Poles also staged a comeback, 4,226,786 poles having been given preservative treatment in 1945, compared with the 2,993,823 treated in 1944, an increase of 1,232,963 poles, or 41 per cent. Of the total number of poles treated in 1945, 3,459,335, or 81.9 per cent, were southern pine, 427,773, or 10.1 per cent, were western red cedar, and 132,235, or 3.1 per cent, were Douglas fir, while lodgepole pine followed closely with 128,424 poles, or 3.0 per cent of the total. The remaining poles, 79,019, or 1.9 per cent of the total, consisted principally of northern white cedar and a few miscellaneous species.

Treatment of Miscellaneous Material—Ft. b. m.

	1945	1944	1943	1942
Lumber	176,339,546	197,613,878	270,525,549	287,191,977
Fence posts	35,874,881	40,319,095	21,255,494	37,401,538
Tie plugs	4,159,079	3,514,076	2,146,370	1,694,468
Crossing plank	708,448	None reported	None reported	None reported
Car lumber	123,732	183,320	159,792	272,103

Wood Preservation 1909-1945

Together with Consumption of Creosote and Zinc Chloride

Year	Total material treated, cu. ft.	Number crossties treated	Creosote used, gal.	Zinc chloride used, lb.*
1909	75,946,419	20,693,012	51,426,212	16,215,107
1910	100,074,144	26,155,677	63,266,271	16,802,532
1911	111,524,563	28,394,140	73,027,335	16,359,797
1912	125,931,056	32,394,336	83,666,490	20,751,711
1913	153,613,088	40,260,416	108,373,359	26,466,803
1914	159,582,639	43,846,987	88,764,050	27,212,259
1915	140,858,963	37,085,585	84,065,005	33,269,604
1916	150,522,982	37,469,368	96,079,844	26,746,577
1917	137,338,586	33,459,470	83,121,556	26,444,689
1918	122,612,890	30,609,209	56,834,248	31,101,111
1919	146,060,994	37,567,927	67,968,839	43,483,134
1920	173,309,505	44,987,532	70,606,419	49,717,929
1921	201,643,228	55,383,515	77,574,032	51,375,300
1922	166,620,347	41,316,474	87,736,071	29,868,639
1923	224,375,468	53,610,175	128,988,237	28,830,817
1924	268,583,235	62,632,710	158,519,810	33,208,675
1925	274,474,539	62,563,911	169,723,077	26,378,658
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1928	335,920,379	70,114,405	222,825,927	23,524,340
1929	362,009,047	71,023,103	226,374,227	19,848,813
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* Includes chromated zinc chloride.

First Half Purchases Top $732 Millions

High volume buying continues despite numerous shortages and restrictions—All commodities top pre-war levels except rail which still lags far below requirements—Ties gain 81 per cent

CLASS I railroads spent $124,108,000 during June and $732,148,000 during the first six months of this year for materials, supplies and fuel, excluding equipment, according to estimates prepared by *Railway Age* and based upon special reports received from 78 individual roads. Railway buying during June was greater than for any other month this year with the exception of January and March. June purchases dropped 6 per cent below the $132,107,000 spent during January; however, they exceed the February expenditure by 11 per cent, but sag 6 per cent under the March total, top the $116,531,000 spent for similar material, supplies and fuel during April by 7 per cent and are fully 8 per cent greater than May purchases which aggregated $114,911,000.

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Expenditures for materials, supplies and fuel during the first six months of 1946 sagged 5 per cent below similar purchases during the comparable period of 1945; they are 10 per cent less than the $810,848,000 spent for this purpose during the same period of 1944, but are 12 per cent greater than similar purchases during the same six months of 1943, top 1942 expenditures by 11 per cent and are 38 per cent more than the $528,914,000 spent for the same purpose during the first half of 1941.

Exclusive of fuel, Class I railroads spent $80,538,000 during June for products from manufacturers. This approximates January purchases, tops the $62,470,000 spent for similar material and supplies during February by 29 per cent, is 3 per cent more than the March total, but drops 7 per cent below the April expenditure and is 5 per cent under the $84,602,000 spent for this material during May. The June, 1946, expenditure is also 4 per cent less than the $83,600,000 expended for this purpose during the same month last year, 9 per cent less than June, 1944, purchases; however, it exceeds the $72,333,000 spent for similar material and supplies during June, 1943, by 11 per cent, is 12 per cent greater than similar purchases during the corresponding month of 1942 and tops the $68,483,000 spent for similar purchases during June, 1941, by 18 per cent.

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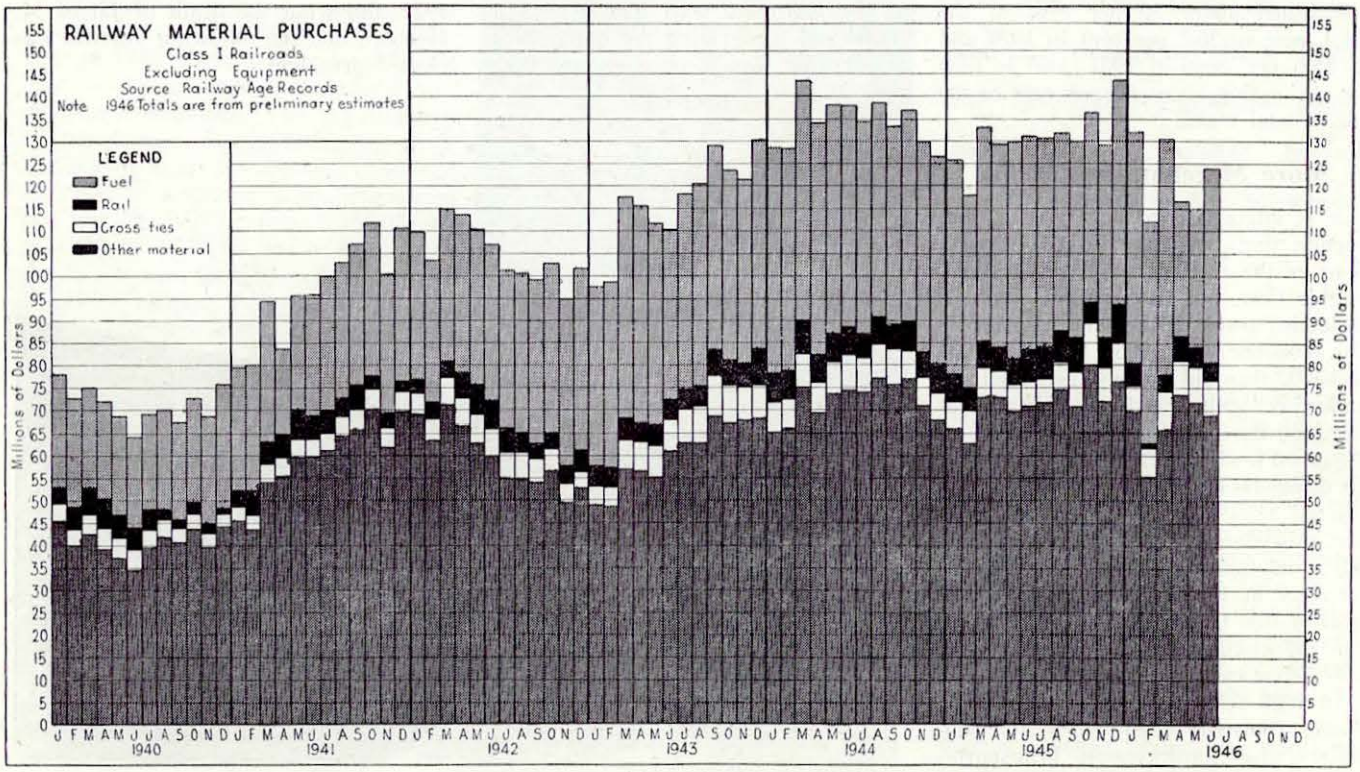
RAILWAY MATERIAL PURCHASES
Class I Railroads
Excluding Equipment
Source Railway Age Records
Note 1946 Totals are from preliminary estimates
LEGEND
Fuel
Rail
Cross ties
Other material
Millions of Dollars
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1940
1941
1942
1943
1944
1945
1946

Railway materials purchases for Class I railroads, excluding equipment. Source: *Railway Age* Records.

preservative treatment in 1944. Numerically, a total of 46,735,177 crossties were treated in 1945, a decrease of 6,309,421, or 12 per cent, from the 53,044,598 crossties treated in 1944. However, despite the marked decrease in the number of ties treated during 1945, this figure has been exceeded only three times since 1930, including 1942, when a large number of crossties were treated for tracks to serve war plants, training camps and other military facilities. On the other hand, the 1945 figures have been exceeded 13 times in the 37 years covered by these statistics.

Woods That Were Used

Again, in 1945, oak ties ranked first in number, 17,625,011, or 37.7 per cent of the total number treated, having been of this species. Southern pine continued in second place with 10,428,767 ties, or 22.3 per cent of the total. Likewise, Douglas fir remained in third place with 6,081,329 ties, or 13 per cent of the total; and gum retained fourth rank with 4,239,476 ties, or 9.1 per cent of the total number of crossties treated in 1945.

Ties of other woods given preservative treatment during the year, including tamarack, lodgepole pine, birch, maple, beech, ponderosa pine, hemlock and elm, in the order given, aggregated 13.5 per cent of the total, while 2,036,608 crossties, or 0.6 per cent of the total, were of woods other than those mentioned.

Of the total number of crossties treated during the year, 27,329,472, or 58.5 per cent, were treated with straight creosote or with solutions of creosote and coal tar; 19,310,416, or 41.3 per cent, were treated with solutions of creosote and petroleum; 77,755, or 0.2 per cent, were treated with Wolman salts; 4,622 ties, or 0.01 per cent of the total, were treated with pentachlorophenol, which appears for the first time as a preservative for ties; 1,943 ties, or less than 0.005 per cent, were treated with either zinc chloride or chromated zinc chloride; while all other preservatives accounted for 10,969 ties, or 0.02 per cent of the total given preservative treatment during the year. All crossties treated during the year were treated by pressure processes.

During the year covered by the report, 27,926,935 ties, or 59.8 per cent of the total, were adzed and bored prior to treatment; 1,841,053, or 3.9 per cent, were adzed but not bored; 3,654,320 ties, or 7.8 per cent of the total, were bored but not adzed; and 13,312,869 ties, or 28.5 per cent, were neither adzed nor bored.

The quantity of switch ties given preservative treatment in 1945 was 118,785,587 ft. b. m., a decrease of 13,488,551 ft. b. m., compared with the previous year. In this classification also oak ranked first with 69,252,044 ft. b. m., or 58.3 per cent of the switch ties given preservative treatment during the year. Southern pine held second place with 17,882,515 ft. b. m., or 15 per cent of the total; while Douglas fir was again in third place, with 10,490,379 ft. b. m., or 8.8 per cent; and gum remained in fourth place with 9,663,885 ft. b. m., or 8.1 per cent of the total. The remaining 9.8 per cent included maple, beech, birch, tamarack, elm, ponderosa pine, lodgepole pine and a few miscellaneous species.

As was the case with crossties, creosote was most used in the treatment of switch ties, 68.3 per cent having been treated with straight creosote or solutions of creosote and coal tar, while solutions of creosote and petroleum were used for 31.3 per cent of the switch ties treated during the year. The remaining 0.4 per cent was treated with Wolman salts, zinc chloride, chromated zinc chloride, pentachlorophenol and a few miscellaneous preservatives. All switch ties reported in 1945 were treated by pressure processes.

Reversing the trend that has been so marked for several years, the total quantity of piles reported in 1945 amounted to 30,348,341 lin. ft., representing an increase of 3,191,629 lin. ft., or 11.8 per cent, compared with the quantity treated in 1944. Douglas fir retained first place with 16,231,487 lin. ft., or 53.5 per cent of the total quantity of piles given preservative treatment, while southern pine, which for many years exceeded all other species, remained in second place with 13,875,033 lin. ft., or 45.7 per cent of the total. The remainder, or 0.8 per cent of the total, was made up of oak, with 65,991 lin. ft., and miscellaneous species with 175,830 lin. ft. All piles were given pressure treatment, creosote and solutions of creosote and coal tar, and of creosote and petroleum, being used in the treatment of 30,242,841 lin. ft., while the remaining 105,500 lin. ft. were treated with Wolman salts, zinc chloride and a few miscellaneous preservatives. It is also of interest that the quantity of piles treated in 1945 has been exceeded in only three of the 37 years that this record has been kept.

Poles also staged a comeback, 4,226,786 poles having been given preservative treatment in 1945, compared with the 2,993,823 treated in 1944, an increase of 1,232,963 poles, or 41 per cent. Of the total number of poles treated in 1945, 3,459,335, or 81.9 per cent, were southern pine, 427,773, or 10.1 per cent, were western red cedar, and 132,235, or 3.1 per cent, were Douglas fir, while lodgepole pine followed closely with 128,424 poles, or 3.0 per cent of the total. The remaining poles, 79,019, or 1.9 per cent of the total, consisted principally of northern white cedar and a few miscellaneous species.

Treatment of Miscellaneous Material—Ft. b. m.

	1945	1944	1943	1942
Lumber	176,339,546	197,613,878	270,525,549	287,191,977
Fence posts	35,874,881	40,319,095	21,255,494	37,401,538
Tie plugs	4,159,079	3,514,076	2,146,370	1,694,468
Crossing plank	708,448	None reported	None reported	None reported
Car lumber	123,732	183,320	159,792	272,103

Wood Preservation 1909-1945

Together with Consumption of Creosote and Zinc Chloride

Year	Total material treated, cu. ft.	Number crossties treated	Creosote used, gal.	Zinc chloride used, lb.*
1909	75,946,419	20,693,012	51,426,212	16,215,107
1910	100,074,144	26,155,677	63,266,271	16,802,532
1911	111,524,563	28,394,140	73,027,335	16,359,797
1912	125,931,056	32,394,336	83,666,490	20,751,711
1913	153,613,088	40,260,416	108,373,359	26,466,803
1914	159,582,639	43,846,987	88,764,050	27,212,259
1915	140,858,963	37,085,585	84,065,005	33,269,604
1916	150,522,982	37,469,368	96,079,844	26,746,577
1917	137,338,586	33,459,470	83,121,556	26,444,689
1918	122,612,890	30,609,209	56,834,248	31,101,111
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* Includes chromated zinc chloride.

The number of southern pine poles treated in 1945 represents an increase of 1,216,016 poles compared with the number treated in the previous year, and accounts for almost all of the increase in the number of poles treated during the year. Of the total number of poles reported in 1945, those treated with creosote numbered 4,110,826, while creosote-petroleum solutions were employed in the treatment of 90,649 poles. Some of those that were butt-treated with these preservatives were then given full-length non-pressure treatment with pentachlorophenol. However, 3,686,895, or more than 87 per cent of the poles treated during the year, were treated by pressure processes.

Preservatives Employed

In 1945 the wood-preserving industry consumed 195,225,939 gal. of creosote, compared with 188,758,182 gal. consumed in 1944, an increase of 6,467,221 gal. Of this amount, 132,478,718 gal. were domestic coal-tar creosote and 62,747,221 gal. were creosote-coal tar solutions. It is of interest that despite the various restrictions that limited the output of forest products, the amount of creosote consumed in 1945 has been exceeded only twice since 1930, and only six times during the 37 years covered by this report. Solutions of creosote and petroleum consumed 32,044,275 gal. of petroleum, or 1,864,066 gal. less than were reported in 1944. This volume of petroleum was used in the preparation of 63,875,353 gal. of such solutions, a decrease of 3,859,759 gal.

Although there was a further decrease in the consumption of zinc chloride in 1945, there was a considerable gain in the amount of chromated zinc chloride consumed. The consumption of the former was 419,011 lb., down 252,374 lb. from the amount consumed in 1944; the increase in the chromated salt was 162,971 lb., from 2,165,035 lb. in 1944 to 2,328,006 lb. in 1945. Included in the foregoing figures were 15,731 lb. of zinc chloride and 756,950 lb. of chromated zinc chloride used in fire-retardant treatments.

The consumption of Wolman salts amounted to 732,154 lb., a reduction of 50,102 lb. from the amount reported in 1944. Zinc meta arsenite rose from 11,503 lb. in 1944 to 17,980 in 1945, a gain of 6,477 lb. There was a similar rise in the use of Celcure of 66,868 lb., from 105,212 lb. in 1944 to 172,080 lb. in 1945.

In previous years pentachlorophenol has been included in the category of miscellaneous preservatives. In 1945, however, 279,881 lb. were used by the wood-preserving industry, and it was, therefore, reported independently.

In addition to the preservatives that have been mentioned specifically, the industry also consumed 1,348,285 lb. of miscellaneous salts and 7,915 gal. of miscellaneous oil preservatives during the year. Included in the former were 1,030,819 lb. of salts used in fire-retardant treatments. This represents a decrease of 967,545 lb. of miscellaneous salts and a loss of 40,260 gal. of the miscellaneous liquids.

The quantity of miscellaneous materials given preservative treatment in 1945 aggregated 238,361,198 ft. b. m., a decrease of 27,589,800 ft. b. m. compared with the 265,950,998 ft. b. m. treated in 1944, representing a loss of 8.9 per cent.

Despite this decrease, however, the volume of miscellaneous material treated in 1945 has been exceeded only five times in the 37 years that this record has been compiled.

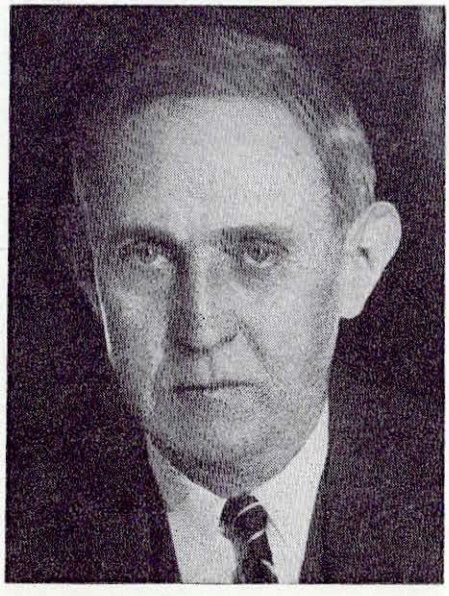
Selected items used only by the railways or in large quantity by them are shown in an accompanying table. Only 7,180,264 ft. b. m. of the miscellaneous materials were treated by non-pressure (open-tank) processes, the remainder being given pressure treatment, and about 62 per cent was treated with creosote or creosote-coal tar solutions.

During the year under review a total of 6,748,626 ft. b. m. of wood was given fire-retardant treatment. This represents a reduction of 1,778,802 ft. b. m. from the quantity given this form of treatment in 1944.

In 1945 there were 219 treating plants in active operation in the United States, 3 less than in 1944. The total number of plants in existence, however, was 236. Of these, 13 were idle and 4 were abandoned during the year. Only 4 plants were constructed during the year, of which 1 remained inactive. Of the total number of plants in existence, 192 were commercial plants that treat wood for sale or by contract; 22 were owned and operated by the railways; and 22 were owned and operated by public utilities, mining companies and others to supply their own needs.

* * *

Daniel Upthegrove Retires



Daniel Upthegrove

An employee of the Cotton Belt for more than 50 years, and its president since 1922, he fostered large-scale grade revision and motive power modernization programs

DANIEL UPTHEGROVE, president of the St. Louis Southwestern and numerous affiliates, and chief executive officer of the system for the trustee, retired on September 15, after more than 50 years of service with the road, 24 of them as president. His successor has not yet been named.

Mr. Upthegrove became president of the Cotton Belt in August, 1922, after advancing through various positions in the law department. At that time the road was at its peak of prosperity, having an annual gross income of more than $26 million in 1922, a large portion of its income being derived from traffic originating on line, particularly lumber, which amounted to more than 26 per cent of the total. With such a large portion of revenues derived from traffic resulting from the cutting of forests, it was inevitable that with their exhaustion the road would suffer a major loss in income if other traffic was not found to replace a large portion of the highly profitable lumber traffic. One of Mr.

Upthegrove's major achievements was the development of that traffic.

In common with many other lines which, at that time, enjoyed substantial volumes of non-competitive, originating-on-line traffic, the Cotton Belt was not in the proper physical condition to become a serious competitor for through traffic, particularly on its Texas lines, where light rail, heavy grades and numerous sharp curves restricted train speeds and train lengths. Accordingly one of Mr. Upthegrove's first moves was to undertake a major rehabilitation program. Beginning in 1928, and extending through 1930, 142 miles of main line between Mount Pleasant, Tex., and Corsicana were completely rebuilt, reducing grades from 1.8 per cent to 1 per cent and curvature from a maximum of 10 deg. to a maximum of 4 deg., and a new yard at Tyler, Tex., was constructed. At the same time, this line was completely relaid with new, heavier rail and reballasted.

The completion of this work enabled the company to join with the Southern Pacific in the establishment of through, competitive transcontinental freight schedules and effected a saving in running time of fast freight trains of as much as 30 per cent. The wisdom of this change was soon apparent. In 1929 the percentage of products of forests of the total traffic, which had theretofore consistently been about 26 per cent, fell to 21 per cent and by 1931 it had fallen to 9.66 per cent. It has risen above 10 per cent in only two years since that time. At the same time manufactures and miscellaneous, which previously had constituted about 30 per cent of the total, rose to 36.7 per cent in 1929 and to 55.6 per cent in 1931, and is now approximating about 60 per cent of the road's total traffic.

More Merchandise Traffic

It is interesting to note in this connection that not only did the proportions of the traffic change substantially at this time, but that the total volume of lumber traffic fell much faster during the economic depression of 1930, 1931 and 1932 than did traffic in manufactures and miscellaneous, and also that it never regained its former levels, and, in fact, remained nearly static until World War II demands for lumber caused a substantial rise. Traffic in manufactures and miscellaneous, on the other hand, fell much more slowly, and began its recovery in 1933. Since that date the total of this traffic handled by the road has increased steadily each year with only a few exceptions.

In 1928 the Cotton Belt entered the motor transport field when its subsidiary, the Southwestern Transportation Company, was formed. Engaging at the outset in the transportation by highway of both passengers and freight, the passenger operations were sold in 1933 to the Southwestern Greyhound Lines, in which company the Cotton Belt now holds a one-sixth interest. Making active use of its highway subsidiary, the Cotton Belt operates a completely coordinated rail-highway l. c. l. service, with trucks handling the freight from major transfer points to the smaller stations along the line. As a part of this coordinated service the "Blue Streak," a fast merchandise train operating between St. Louis, Mo., and Pine Bluff, Ark., with connections for Louisiana and Texas points, was inaugurated in 1931. Started as an 18-car train, so successful has this pioneer l. c. l. train become that it now regularly handles from 60 to 70 cars of merchandise each night.

New Power

In 1930 modernization of the road's motive power was begun with the purchase of 10 heavy 4-8-4 type freight locomotives, and in 1935 an extensive car rehabilitation and construction program was undertaken. In 1937 five additional 4-8-4 locomotives were built in the company shops at Pine Bluff, and an additional five were built there in 1942. Five 5,400-hp., road Diesel-electric locomotives were placed in freight service in 1943 and 1944, and 23 Diesel switchers have been added since 1941.

An example of the far-sightedness of the Cotton Belt's management under Mr. Upthegrove's direction occurred early in 1941, when foreseeing the effects of the European war upon the road's traffic and recognizing the impossibility of securing new locomotives promptly, the road purchased and rebuilt seven heavy mountain-type used locomotives. Because of this action and subsequent additions of both new and used locomotives, the road was able at all times to move all traffic offered in spite of its unprecedented growth from 970,311 tons per mile of road in 1939 to 1,096,593 tons in 1940; 1,674,962 in 1941; 3,109,855 in 1942; 3,815,530 in 1943; 3,886,084 in 1944; and 3,354,711 in 1945; the density from 1942 to 1945 being about four times as great as in 1929, the previous peak. This ability to handle the tremendous burden of war-time traffic, thrust upon it in such magnitude that it was exceeded in traffic density by no other Southwestern carrier, is perhaps the finest tribute that can be paid to Mr. Upthegrove's success in building a sound railroad organization.

Outstandingly successful from an operating standpoint, the depression of the last decade forced the road into bankruptcy proceedings in 1935, Mr. Upthegrove being appointed chief executive officer for the trustees.

Daniel Upthegrove was born in Greenville, Tex., on May 26, 1871, and was educated at Vanderbilt University and in the law school of the University of Texas. From 1893 until 1901 he practiced law in Greenville, Tex., entering the employ of the Cotton Belt during this period as a local attorney at Greenville, in 1896.

In 1901 he was advanced to assistant general attorney at Dallas, Tex., and in 1916 he was promoted to general solicitor at that point. Mr. Upthegrove was appointed temporary president in 1922, following the death of James M. Herbert, and the following year he was elected president.

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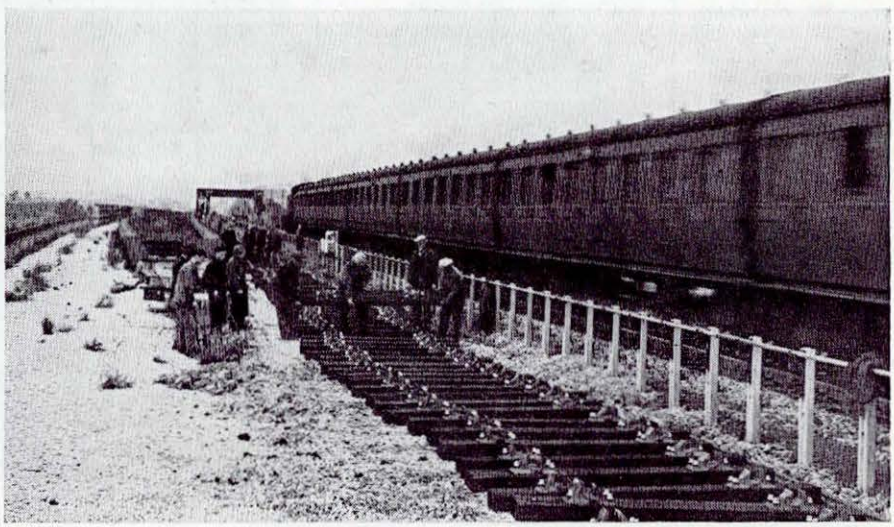

British Combine Photo

Track-Laying in Great Britain; ex-servicemen lay the first "sleepers" on a new line

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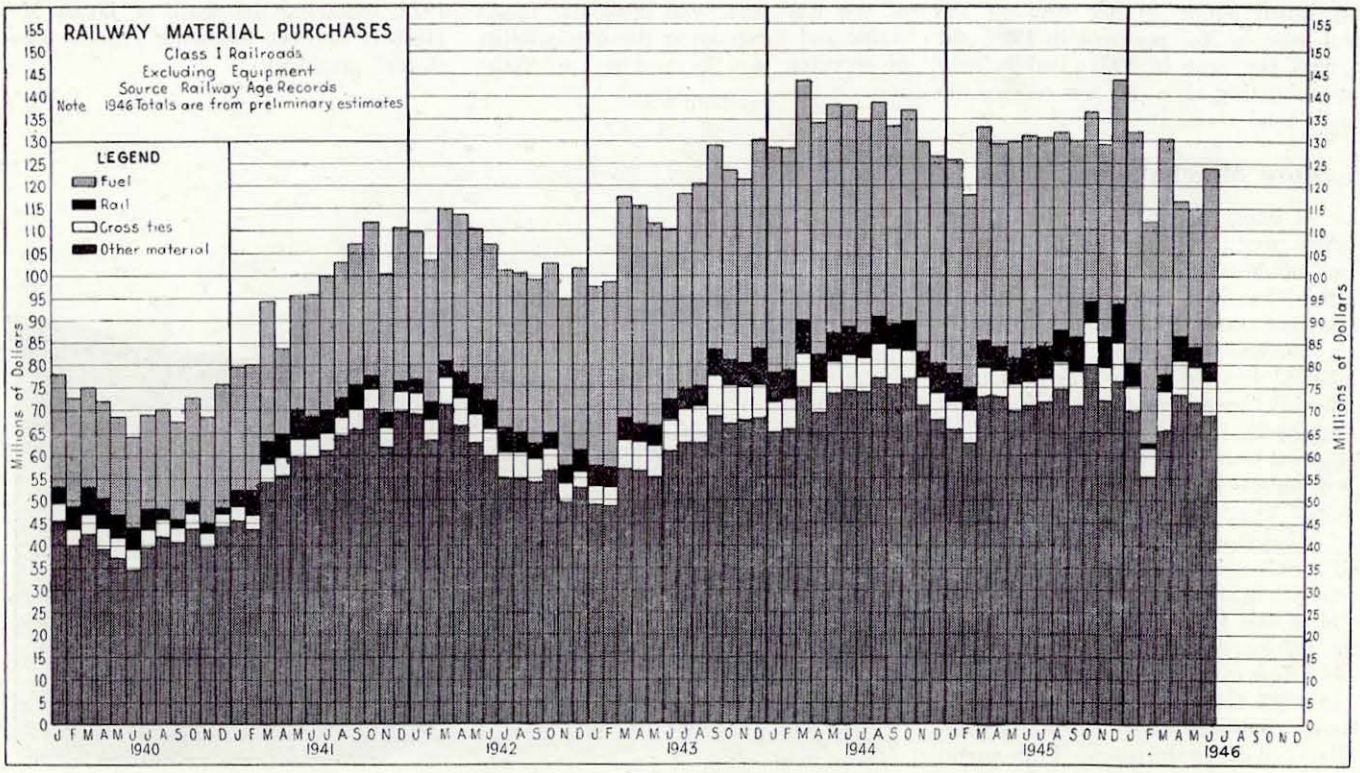
Exclusive of fuel, Class I railroads spent $80,538,000 during June for products from manufacturers. This approximates January purchases, tops the $62,470,000 spent for similar material and supplies during February by 29 per cent, is 3 per cent more than the March total, but drops 7 per cent below the April expenditure and is 5 per cent under the $84,602,000 spent for this material during May. The June, 1946, expenditure is also 4 per cent less than the $83,600,000 expended for this purpose during the same month last year, 9 per cent less than June, 1944, purchases; however, it exceeds the $72,333,000 spent for similar material and supplies during June, 1943, by 11 per cent, is 12 per cent greater than similar purchases during the corresponding month of 1942 and tops the $68,483,000 spent for similar purchases during June, 1941, by 18 per cent.

Purchases of material and supplies (excluding fuel) during the first half of 1946 aggregated $472,946,000 and registered a drop of 3 per cent below the $486,690,000 spent for the same



Railway materials purchases for Class I railroads, excluding equipment. Source: *Railway Age* Records.

Railway Purchases for First Six Months 1941-1946—Class I Roads

	Miscellaneous Materials and Supplies (Excluding Crossties, Rail and Fuel)—In Thousands						Rails—In Thousands					
	1946*	1945	1944	1943	1942	1941	1946*	1945	1944	1943	1942	1941
January	$69,808	$66,609	$64,987	$49,000	$68,988	$45,387	$4,830	$5,734	$6,423	$4,811	$3,071	$3,459
February	55,587	63,245	65,693	48,407	63,148	43,400	799	5,962	6,264	4,340	3,813	5,289
March	67,026	72,791	75,033	56,911	71,103	53,988	3,086	6,531	7,700	4,718	3,766	5,160
April	73,718	72,869	69,337	56,412	66,409	55,377	5,730	5,621	6,175	4,181	5,827	4,850
May	71,963	69,813	73,446	55,170	62,812	59,412	4,751	5,184	6,188	4,599	6,637	6,186
June	68,941	70,835	74,351	60,923	59,822	59,597	4,029	6,627	6,508	4,584	5,829	4,861
	$407,043	$416,162	$422,847	$326,823	$392,282	$317,161	$23,225	$35,659	$39,258	$27,233	$28,943	$29,805
	Crossties—In Thousands						Total Materials and Supplies (Less Fuel)—In Thousands					
January	$5,786	$5,601	$6,895	$4,037	$4,871	$3,434	$80,424	$77,944	$78,305	$57,848	$76,930	$52,280
February	6,084	5,459	6,675	4,530	4,814	3,475	62,470	74,666	78,632	57,277	71,775	52,164
March	7,937	5,540	7,370	6,481	6,100	4,042	78,049	84,862	90,103	68,110	80,969	63,190
April	7,415	5,647	6,745	6,625	6,143	4,317	86,863	84,137	82,257	67,218	78,379	64,544
May	7,888	6,484	7,410	6,758	6,156	4,321	84,602	81,481	87,044	66,527	75,605	69,919
June	7,568	6,138	7,589	6,826	6,138	4,025	80,538	83,600	88,448	72,333	71,789	68,483
	$42,678	$34,869	$42,684	$35,257	$34,222	$23,614	$472,946	$486,690	$504,789	$389,313	$455,447	$370,580
	Fuel—In Thousands						Total Materials, Supplies & Fuel—In Thousands					
January	$51,683	$47,826	$50,341	$39,883	$32,851	$27,254	$132,107	$125,770	$128,646	$97,731	$109,781	$79,534
February	49,702	43,349	50,041	41,542	31,991	27,894	112,172	118,015	128,673	98,819	103,766	80,058
March	54,270	48,538	53,277	49,297	34,025	31,113	132,319	133,400	143,380	117,407	114,994	94,303
April	29,668	45,601	51,655	48,369	35,230	19,198	116,531	129,738	133,912	115,587	113,609	83,742
May	30,309	48,638	51,039	44,991	34,701	25,544	114,911	130,119	138,083	111,518	110,306	95,463
June	43,570	48,215	49,706	38,019	35,290	27,331	124,108	131,815	138,154	110,352	107,079	95,814
	$259,202	$282,167	$306,059	$262,101	$204,088	$158,334	$732,148	$768,857	$810,848	$651,414	$659,535	$528,914

* Subject to Revision.

purpose during the comparable period of 1945 and 6 per cent less than expenditures during the same six months of 1944. The $389,313,000 spent during the corresponding months of 1943 was exceeded by more than 21 per cent. The first half purchases in this category were also 4 per cent greater than similar purchases during the same six months of 1942 and top the $370,580,000 spent for material and supplies (excluding fuel) during the comparable period of 1941 by approximately 28 per cent.

Although all comparisons must be tempered with due consideration for increases in unit prices, the continued heavy-volume buying on the part of the railroads is well illustrated by their June purchases of all types of miscellaneous materials and supplies largely comprising stores stock. This classification includes all items for maintenance of cars, locomotives, roadway and structures and June expenditures reached $68,941,000, 1 per cent less than the January total which amounted to $69,808,000; however, it tops the year's low which was registered during February by 24 per cent, is 3 per cent greater than the $67,026,000 spent for similar supplies during March, but sags 6 per cent below the April total and is 4 per cent less than the $71,963,000 spent for this purpose during May. June, 1946, purchases are 3 per cent below those for the same month last year, 7 per cent under June, 1944, purchases, but are 13 per cent, 15 per cent and 16 per cent greater, respectively, than for the corresponding months of 1943, 1942 and 1941.

Expenditures for miscellaneous materials and supplies (excluding crossties, rail and fuel) for the first six months of 1946 aggregated $407,043,000, a drop of 2 per cent below similar purchases during the comparable period of 1945, 4 per cent below the $422,847,000 expended for this material during the same six months of 1944; however, they surpass the $326,823,000 spent for similar materials and supplies during the corresponding months of 1943 by more than 24 per cent, top 1942 purchases by approximately 4 per cent and exceed the $317,161,000 spent for this purpose during the first six months of 1941 by a full 28 per cent.

Rail Deliveries Lower

Rail purchases during June dropped below the year's high which was registered during April and totaled $4,029,000, a drop of 30 per cent below the $5,730,000 spent for this material during the fourth month of 1946. It is also 17 per cent less than January rail purchases; however, it tops the seven-year low reached during February by 404 per cent, exceeds the $3,086,000 spent for similar material during March by 30 per cent, but dropped 15 per cent below May purchases which aggregated $4,751,000. Moreover, June rail purchases are 39 per cent less than the June, 1945, total, 38 per cent less than the $6,508,000 spent for rail during June, 1944, 12 per cent under purchases during the comparable month of 1943, 31 per cent less than 1942 and 17 per cent less than the $4,861,000 spent for rail during the sixth month of 1941.

Rail purchases during the first six months of 1946 aggregate $23,225,000, the lowest level reached since 1938. They were 35 per cent less than the $35,659,000 spent for similar material

Materials and Supplies in Stock—Class I Roads

	Fuel (000)	Rail New & S.H. (000)	Crossties (000)	Stores Stock (000)	Scrap (000)	Total (000)
June 1, 1936	$21,493	$38,419	$47,681	$184,295	$7,959	$299,847
June 1, 1937	31,738	37,644	51,205	236,232	9,781	366,600
June 1, 1938	22,391	33,504	65,020	230,902	12,127	363,944
June 1, 1939	21,048	29,345	57,067	205,169	11,548	324,177
June 1, 1940	22,419	34,818	60,070	231,308	11,275	359,890
June 1, 1941	24,578	26,461	57,051	252,972	10,357	371,419
June 1, 1942	44,574	23,562	62,424	392,441	10,689	533,690
June 1, 1943	58,172	19,424	60,479	370,995	10,167	519,237
June 1, 1944	56,885	22,637	79,004	413,410	10,346	582,282
January 1, 1945	59,182	24,292	72,434	437,575	10,155	603,638
February 1, 1945	56,398	25,149	75,259	440,353	10,021	607,180
March 1, 1945	52,237	26,760	78,090	439,922	14,093	611,102
April 1, 1945	52,313	27,142	78,236	441,106	15,345	614,142
May 1, 1945	51,236	26,057	74,792	448,326	10,414	610,825
June 1, 1945	51,402	24,238	70,302	450,437	10,110	606,489
July 1, 1945	53,708	25,213	67,450	450,773	9,494	606,638
August 1, 1945	56,248	26,332	66,422	449,821	9,280	608,103
September 1, 1945	55,333	25,611	62,070	448,110	13,979	605,103
October 1, 1945	57,279	25,158	63,300	450,008	10,183	605,928
November 1, 1945	54,710	23,942	64,000	450,689	10,275	603,616
December 1, 1945	54,685	23,624	65,872	448,990	10,104	603,275
January 1, 1946*	51,816	24,840	72,519	435,326	11,258	595,759
February 1, 1946*	55,613	22,439	75,886	439,184	11,677	604,799
March 1, 1946*	61,588	21,892	76,253	435,455	11,542	606,730
April 1, 1946*	50,199	23,967	78,071	452,957	11,217	616,411
May 1, 1946*	42,918	24,119	77,413	452,861	10,959	608,270
June 1, 1946*	43,014	23,097	76,589	455,068	10,992	608,760

* Subject to Revision.

during the comparable months last year, 41 per cent below rail purchases during the same six months of 1944, 15 per cent less than 1943, 20 per cent under rail purchases during the corresponding period of 1942 and 22 per cent less than the $29,805,000 expended for similar material during the comparable six months of 1941.

Fuel purchases during June amounted to $43,570,000, a drop of 16 per cent below the $51,683,000 spent for this purpose during January, 12 per cent below February purchases, 20 per cent under March, but are 47 per cent more than the year's low which was registered during April, and are 44 per cent greater than the $30,309,000 spent for fuel during May. June fuel purchases are 10 per cent less than the June, 1945, purchases, 12 per cent below similar purchases during the same month of 1944; however, they top the $38,019,000 spent for this material during the comparable month of 1943 by 15 per cent, are 23 per cent greater than June, 1942, fuel purchases and top the $27,331,000 spent for similar material during the same month of 1941 by 59 per cent.

Fuel Purchases Lag

Class I roads spent $259,202,000 for fuel during the first six months, a drop of 8 per cent below the $282,167,000 expended for this purpose during the comparable period of 1945, 15 per cent less than similar purchases during the first half of 1944, 1 per cent less than the $262,101,000 spent for this material during the corresponding period of 1943; however, it tops the 1942 total by 27 per cent and is approximately 64 per cent greater than the $158,334,000 expended for fuel during the same six months of 1941.

Crosstie purchases during June slipped slightly below the March high and aggregated $7,568,000, or a drop of 5 per cent. They surpass the $5,786,000 spent for ties during January by 31 per cent, top the February total by 24 per cent, exceed the $7,415,000 spent for crossties during April by 2 per cent, but dropped 4 per cent under the May expenditure which aggregated $7,888,000. Moreover June, 1946, purchases top the June, 1945, tie purchases by 23 per cent, approximate similar purchases during the comparable month of 1944, top crosstie purchases during the same month of 1943 by 11 per cent, 1942 by 23 per cent and are 88 per cent greater than the $4,025,000 spent for this material during June, 1941.

Expenditures for crossties during the first six months of this year amounted to $42,678,000, a gain of 22 per cent over the comparable period last year; they approximate the $42,684,000 spent for similar material during the corresponding period of 1944, exceed 1943 tie purchases by 21 per cent, top similar purchases during the first half of 1942 by more than 24 per cent and are 81 per cent greater than the $23,614,000 expended for this purpose during the same six months of 1941.

Materials and supplies carried in stock by Class I railroads amounted to $608,760,000 on June 1, 1946, according to reports of the Interstate Commerce Commission. This total reflects very little change compared with the May 1, and March 1, 1946, balances; however, it exceeds the $595,759,000 balance on hand January 1, by 2 per cent, approximates the June 1, 1945, total, is about 5 per cent greater than on the comparable day of 1944, tops the June 1, 1943, inventory by 17 per cent, is 14 per cent more than the $533,690,000 material and supply balance on June 1, 1942, 64 per cent greater than the total inventory on June 1, 1941, and exceeds the June 1, 1940, stock balance by 69 per cent.

According to *Railway Age* estimates, fuel supplies in stock June 1, 1946, totaled $43,014,000, a drop of 30 per cent below the March 1 balance and 17 per cent under the $51,816,000 supply on hand January 1, 1946. Moreover, June fuel balances are more than 16 per cent less than the June 1, 1945, supply, 24 per cent below the fuel stock on the same day of 1944, 26 per cent less than the $58,172,000 on hand June 1, 1943, approximately 4 per cent under 1942, but are 75 per cent greater than the $24,578,000 fuel supply on hand June 1, 1941.

The value of store stocks on June 1, 1946, totaled $455,068,000, or approximately 1 per cent more than the May 1, balance and top the $435,455,000 supply on hand March 1 by almost 5 per cent. June store stocks are 147 per cent greater than on the comparable day of 1936, 97 per cent more than the $231,308,000 balance on the same day of 1940, they exceed the June 1, 1941, balance by 80 per cent, are 16 per cent greater than the stores balance on the corresponding day of 1942, are approximately 23 per cent greater than the $370,995,000 balance on June 1, 1943, 10 per cent more than 1944 and top the $450,437,000 stock on hand June 1, 1945, by 1 per cent.

Crosstie supplies on June 1, aggregated $76,589,000, a drop of 1 per cent below the May balance and approximate the March tie inventory; however, they top the $72,519,000 tie stock on January 1, 1946, by more than 5 per cent. Crosstie inventories also reflect a gain of 16 per cent over the December 1, 1945, balance, 23 per cent more than the September balance, exceed the June 1, total by 9 per cent and are 6 per cent greater than similar stocks on January 1, 1945. Crosstie inventories are also 61 per cent, 50 per cent, 18 per cent, 34 per cent, 27 per cent, 34 per cent, 22 per cent and 26 per cent greater, respectively, than on the comparable days of 1936, 1937, 1938, 1939, 1940, 1941, 1942 and 1943.

Rail supplies on June 1 show a decrease of 4 per cent below the May balance and aggregate $23,097,000. The June rail supply exceeds the March balance by 5 per cent, but dropped 7 per cent below the January 1 total which amounted to $24,840,000. June balances are 5 per cent, 14 per cent and 5 per cent less, respectively, than the June 1, 1945, March 1, 1945, and January 1, 1945, rail stock.

However, they exceed the June 1, 1944, total by 2 per cent and top the $19,424,000 rail supply on June 1, 1943, by 19 per cent.

Scrap inventories for June were valued at $10,992,000, 5 per cent less than on hand March 1, and 2 per cent under the January scrap total; however, they top the scrap balance one year ago by 9 per cent, exceed the June 1, 1944, total by 6 per cent and are 8 per cent greater than the $10,167,000 scrap inventory on the corresponding day of 1943.

* * *

Modern storehouse constructed recently by Northern Pacific at Livingston, Mont.

N. P. Tests Radio Train Communication

New Western Electric very high frequency apparatus operates successfully in end-to-end and train-to-wayside service in mountain regions

GREATER efficiency in railroad operations through the use of radio on freight trains is indicated by a comprehensive series of tests conducted by the Western Electric Company in cooperation with the Northern Pacific on a new type of very high frequency railroad radio equipment. The tests were made on runs between Seattle, Wash., and Yakima, 145 miles over the rugged Cascade mountains, and between Seattle and Portland, Ore., 180 miles. The new radio equipment was designed by the Bell Telephone Laboratories to operate in the new 152 to 162-megacycle band, assigned to railroads by the Federal Communications Commission.

For the first runs over the Cascades the equipment was installed in two 5,400-hp. Diesel-electric locomotives and in the business car of F. L. Steinbright, superintendent of telegraph of the Northern Pacific, who supervised the tests. On the second set of runs, between Seattle and Portland, the equipment was transferred to a steam locomotive. For the train-to-wayside station testing, radio equipment was installed at the Diesel-electric enginehouse at Auburn, Wash., about 20 miles south of Seattle.

Because the run over the Cascade mountains includes long 2.2 per cent grades, it is common practice on the Northern Pacific to cut-in a Diesel helper locomotive about midway in the train. Although this is a most effective method for handling long freight trains over mountain grades, it has also presented the difficult problem of coordinating throttle positions (particularly when the locomotives may be as much as a half-mile apart and around a curve). During the tests, however, on a freight train approximately a mile long, each of the numerous throttle positions was called by one engineman to the other via radio, and resulted in perfect coordination.

In one case it was necessary for one engineman to advise the other quickly to return to a lower throttle position on account of wheel slippage. Thus it was found that on all occasions the new radio equipment made smoother operation possible with a minimum danger of a break-in-two. It was estimated that the more efficient operation resulting from the use of the radio equipment produced a minimum saving of between 5 and 10 per cent in over-all time on a run of 145 miles with ample opportunity in unusual cases to exceed this figure. When the equipment was transferred to the steam locomotive for the second set of runs, it was found that, although the ambient noise was considerably higher than that for the Diesel-electrics, understandable communication was maintained.

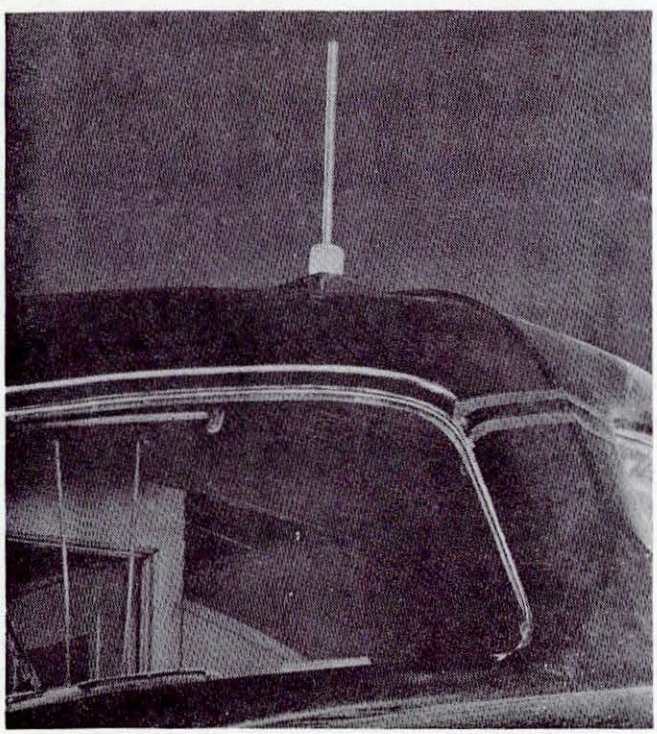
For the train-to-wayside station tests the equipment, as previously mentioned, was installed in the Diesel-electric enginehouse at Auburn which is located at the foot of the westward slope of the Cascade mountains. Solid, clear transmission up to 12 miles was maintained with the station from the train even up the mountain grade, and beyond that good communications were interspersed with dead spots up to approximately 24 miles from Auburn.

Log Shows Savings

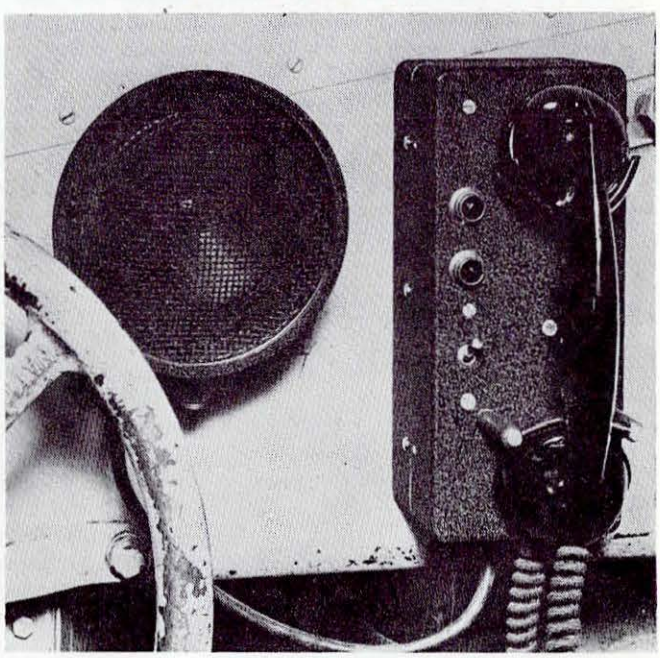
To provide a means for analyzing the ways in which the new Western Electric VHF radio equipment saved time on a normal, uneventful trip excerpts from an informal log kept by Mr. Steinbright during the run from Auburn to Yakima are outlined below:

At 9:18 a.m.—Pulled out of Auburn.

9:28 a.m.—Conductor to front end (over radio) "Hang onto 6 instead of 3 at Kanaskat." (This meant that the



Left—Vertical antenna on the cab of a Diesel-electric locomotive. Below—Radio telephone hand-set and loud-speaker in cab of Diesel-electric locomotive



engine should remain coupled to 6 cars when making a pick-up at Kanaskat, and thus save time in switching operations later when the six cars were all to be "set out" or dropped from the train at one place.)

9:51—Reception from Auburn (from the fixed radio installation at the Auburn Diesel-electric enginehouse): Reliable and solid communication for 10 miles.

9:57—Radio reports: Head end going in hole at Covington.

10:09—Rear end reported clear of crossing.

10:20—Rear end reported brakeman on. "Give her the high-ball."

10:43—Conductor told the engineman over the radio that brakeman was going to look train over at Kanaskat (This meant go slowly so brakeman could get on as rear end came by.)

10:48—Head end radios Auburn that there is a leak in hose connection in "B" unit of the head Diesel.

10:58—Assistant Master Mechanic Hermanson talked to Nelson at Auburn (20 miles) by radio and tells him about leak in "B" unit of Diesel 6001.

12:06 p.m.—Front end contacted helper 6006 by radio, while eight miles apart. (This is in the vicinity of Lester and probably the worst terrain for radio of any encountered.)

12:38 p.m.—Head end reported by radio that it was going to make a set-out. While stopped, the train was cut and helper was instructed by radio to come to this location instead of whole train being pulled up to where helper is usually cut in.

12:41 p.m.—Head end radios helper to report when train is in clear.

12:42 p.m.—Helper radios in clear.

1:00 p.m.—Engines 6001 and 6006 checked air, etc., preparing to go.

1:03 p.m.—Engine and helper used radio communications to synchronize starting by going to successive throttle positions at the proper time.

1:31 p.m.—Conductor radios road engine that he had 55 cars in front of helper and if he would pull up close to the switch they would just fit in. (Just leave room for the helper to be cut out.)

2:24 p.m. — Helper radios: "Uncoupled."

2:26 p.m.—Helper radios: "Head-end in clear."

2:30 p.m.—Helper indicates by radio: Clear of train and radios back-up signal for front end.

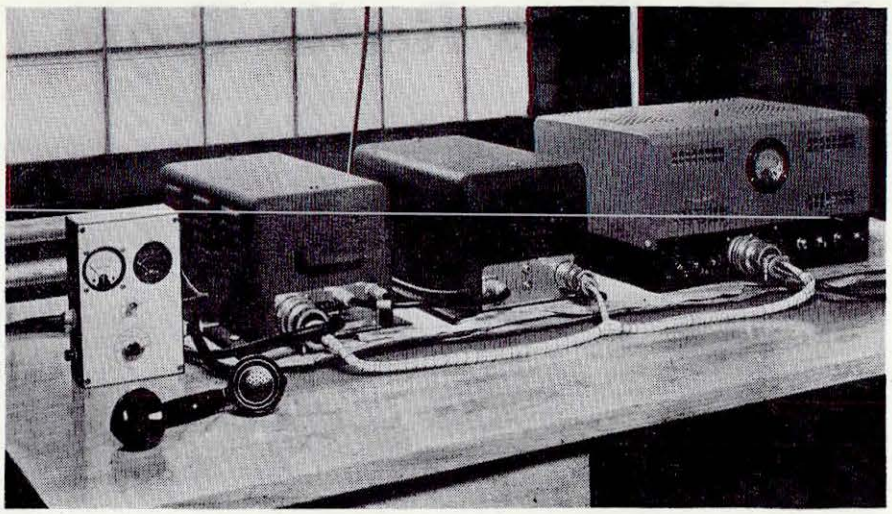
3:23 p.m.—Moving.

3:32 p.m.—Rear end radios all on.

3:47 p.m.—Started into the hole at Nelson for No. 5.

3:56 p.m.—Rear end radios in the clear. Tight fit with 100 cars.

3:59 p.m.—Head end radios high-ball the switch. (Work train took care of it.)



Radio transmitter, receiver and power supply unit on bench in enginehouse at Auburn

7:30 p.m.—Arrived Yakima, Wash.

Besides the saving in time, this log reveals that more satisfactory operations were assured in pulling into sidings to let other trains pass, ascertaining whether the rear end of the train was completely on the siding, picking up additional cars, picking up trainmen, preparing for cut-in of helper engines, switching operations, and train-to-yard contacts.

Type of Equipment

Each radio receiver and transmitter was constructed on an individual chassis. For each mobile unit, a mounting plate was provided on which was mounted the receiver, transmitter and the dynamotor for supplying plate and filament power to the transmitter. The control units consisted of a conventional Western Electric switch-hook, a power switch and two indicator lamps. One indicator lamp signifies application of primary power, while the other indicator lamp signifies application of transmitter. When the handset is lifted from the switch-hook of the control unit, the transmitter dynamotor is energized and the transmitter is thus prepared for push-to-talk operation.

Transmitters were rated at 20-watt output capacity, with crystal control to provide a high degree of frequency stability. In the transmitter circuit, a single-tube phase modulator is used which operates at crystal frequency. This phase modulator is in turn followed by frequency multipliers that multiply the crystal frequency 36 times to produce the desired carrier frequency. A frequency of 158.175 megacycles was used because the nature of the tests was such that multiple frequency operation was neither desired nor necessary.

The receivers were crystal-controlled, triple-detection, super-heterodyne units. Frequency modulation was used because of its better signal-to-noise ratio, as compared to amplitude modulation. In mountainous regions or under other circumstances where a multiple-path signal is received on a mobile unit, a severe "flutter" is often observed when using amplitude modulation. However, when FM is used, as long as the radio signal is sufficient to give reasonable limiting in the receivers, the audio output of the receiver is clean and free of flutter.

Regular permanent-magnet loudspeakers used in the Diesel locomotives, were mounted just above and to the right of the brake wheel on the fireman's side of the cab. In the steam locomotive, however, a high-efficiency voice-range speaker was mounted at an angle high up on the fireman's side of the locomotive cab with high-frequency directivity in the direction of the engineman. All speakers were cut out by the push-to-talk button in order to prevent acoustic feed-back, as both transmitters and receivers were on the same frequency. The microphones or transmitters were regular Western Electric handsets.

Quarter Wave Vertical Antennae

For both the mobile and wayside tests, quarter-wave vertical antennae with ground plane were used. On the Diesel locomotives the cab roof constituted the ground plane. On the business car a metal plate installed beneath the antenna served as a ground plane, while a similar arrangement was erected on the roof of the enginehouse about 42 ft. off the ground for the wayside station tests at Auburn. For the steam locomotive installation, the antenna was mounted atop the weatherproof box which housed the radio equipment. The total height of the antenna plus the mounting base was

18 in. The quarter-wave vertical antenna was chosen because of its simplicity, and the fact that it is mechanically rugged.

Power, in the case of the two Diesels, was provided by the regular 64-volt storage battery which proved to be adequate. On the steam locomotive, the headlight generator furnished power for the radio equipment. For the wayside station tests, the power unit operated on standard 117-volt 60-cycle power. The receivers used in the tests had a built-in 117-volt a.c. power supply.

Except for the wayside station, the power consumption was approximately 250 watts for stand-by, 150 watts for receiving and 425 watts for transmitting, all of which are for 32-volt or 64-volt d.c. primary power sources. At the wayside station where operation was from 117-volt a.c. primary power, the consumption was substantially decreased.

For regular use of radio on cabooses, the Northern Pacific is planning to install a gas engine generator that will run continuously when the radio equipment is in service. One standard caboose is now being equipped with an Onan model OTC-2 gas-engine generator, rated at 1,500 watts output, 110 volts, 60 cycles, with a 12-volt storage battery for starting. The gas engine is rated at 3.7 hp. at 1,800 r.p.m. Propane gas will be used for fuel, and two tanks, each containing 109 lb. of fuel, will be provided on the caboose. With a load on the generator of 1,000 watts, the gas consumption would be 1.88 lb. per hour. The gas engine generator unit will be mounted at floor level in a specially constructed compartment that is sound and heat insulated, and ventilated by ducts to outside air.

* * *

One Aspect of Coach Modernization

(*Continued from page 471*)

holder is designed in stainless steel and placed in conjunction with the pipe covering and under the basin line. It is designed so there is leg room and standing space under it.

(3) The toilet paper is boxed in a stainless-steel container. It could be the roll type, if some railroads do not require the folded-sheet type.

(4) A new window frame is applied to the old opening with the dust-proof jamb and sill section streamlined and possibly built of stainless steel or formica. If the car builders and renovators object to the expense, a smaller wash basin could be fitted into the corner of the room.

(5) New stainless-steel pierced radiator-pipe cover, with an additional top section to cover existing water pipes, is shown running out of the picture below the window.

(6) New rubber tile or asphalt tile flooring, laid in attractive colors with a slightly mottled finish to cover traveling dirt and cinders, is laid immediately over the existing cement floor.

Photograph No. 2, Criticisms

(1) Exposed valve and T-connections are unsightly in the ceiling of the women's wash room. This plumbing also collects a great deal of dust.

(2) Exposed light fixture (two lamps) over the mirror also collects dust and could prove dangerous if the car should receive a heavy bump and the glass were shattered.

(3) Exposed screws and rivet heads are unsightly and also collect dust.

Sketch No. 2, Improvements

(1) The valve and piping have been enclosed with a metal box suggesting an off-set beam, combined with a lighting fixture of translucent plastic material, formed to the contour of the pipe enclosure. The down-pipe has been moved from its conspicuous center position to the corner of the wash room. Valve accessibility is aided by hinging the front face of the box enclosure with a piano hinge at the ceiling line.

(2) The plastic light fixture contains a down spot-lens. General illumination comes from the plastic material and the basin is illuminated by the spot-lens.

(3) Screws and rivet heads have been covered by a sheet material such as stainless steel or bakelite.

(4) The mirror has been enlarged and cut to fit the entire wall area between the top of the basin and the light fixtures.

Photograph No. 3, Criticisms

(1) The exposed flush valve, the shut-off valve and piping make this area unsightly.

(2) The toilet bowl, seat and back are of an antiquated design, but not without the possibility of design help. The seat connection to the back is of exposed hardware, unsightly and unsanitary.

(3) The window hardware, sill and side trim are so designed that they are dust-catchers.

(4) Exposed metal trim and screw heads add further to the unsightliness.

Sketch No. 3, Improvements

(1) The supply down-pipe has been moved to the inside corner (not shown in the sketch) of the room to a more out-of-the-way hidden position and the flush valve has been enclosed to the rear of the bowl. Foot-pedal valve control has been added and a stainless-steel enclosure put above the entire assembly.

(2) The toilet seat and back are indicated as a plastic material and stock design fitting the existing fixture more evenly. Heating pipes are indicated enclosed with a stainless steel stamped design similar to the other sketches which is non-corrosive in this type of application. The floor is covered with asphalt tile as previously suggested.

(3) The window trim indicated, the writer believes, can be set into the existing window openings and a wall material can also be set over the unsightly screw heads.

* * *

Fire truck and equipment manned by the Stores department to protect Union Pacific shops and stores at Omaha, Neb.

GENERAL NEWS

Name Jackson A.A.R. Mechanical Engineer

Missouri Pacific officer is appointed to post at Chicago

J. R. Jackson, engineer of tests of the Missouri Pacific at St. Louis, Mo., has been appointed mechanical engineer of the A. A. R. Mechanical Division, with headquarters at Chicago. Mr. Jackson was born on May 5, 1886, at Ft. Wayne, Ind., and educated in the public schools of Ft. Wayne and at Purdue University where he received a bachelors degree in mechanical engineering in 1910 and a masters degree in 1915.

Mr. Jackson served as machinist apprentice on the Pennsylvania and, after graduating from Purdue in June, 1910, was employed in the test department of the Atchison, Topeka & Santa Fe until October, 1917, advancing through various grades to assistant engineer of tests, with headquarters in Chicago. He joined the United States army, serving as captain, Ordnance

J. R. Jackson

Reserves, from October, 1917, until March, 1919. He went to France to serve on the staff of the American Commissioner, Anglo-American Tank Commission (Paris) as experimental officer, keeping in touch with experimental and development work of the French Tank Corps, and held a commission as major, Ordnance Reserve Corps, for 10 years after discharge in March, 1919.

Mr. Jackson resumed civilian duties as mechanical engineer, Division of Operation, United States Railroad Administration, Washington, D. C., and held that position until March 1, 1920. He then became mechanical engineer and later chief engineer for the Lewis Engineering Co., Chicago and Toronto, Canada.

In 1923 and 1924 Mr. Jackson was engaged in general engineering work as a co-partner in Pioneer Precooling Plants, Calif., and on July 1, 1925, he became engineer of tests, Missouri Pacific Lines, St. Louis, in which capacity he organized a new department to take care of the inspection of materials; established chemical and physical laboratories, and carried on the work of testing materials and appliances, standardizing specifications, and making reports covering tests and special investigations.

Mr. Jackson has actively participated in committee work of the A. A. R., Mechanical Division; the American Society for Testing Materials; the A. S. M. E. Railroad Division, of which he is a past chairman, and the Railway Fuel and Traveling Engineer's Association, of which he is a past president.

August Operating Revenues 6.7 Per Cent Under 1945

From preliminary reports of 86 Class I railroads representing 80.8 per cent of total operating revenues, the Association of American Railroads has estimated that the August gross amounted to $569,333,282, a decrease of 6.7 per cent below the $610,410,064 reported for the same 1945 month. Estimated August freight revenues were $439,171,645, practically the same as August, 1945's $439,028,343, while estimated passenger revenues were $91,041,249, compared with $126,010,538, a decrease of 27.8 per cent.

Canadian National Orders New Alaskan Cruise Ship

A new 5,000-ton $3,000,000 passenger steamship of all-Canadian design and construction for use in Pacific coast and Alaska service has been ordered for the Canadian National Pacific Coast Steamships. The ship, said to be the largest passenger boat ever to be built on the Pacific Coast, will be constructed in the Yarrow plant of the Burrard Dry Dock Company of Vancouver, B. C.

The steamship whose name, when selected, is expected to perpetuate the "Prince" nomenclature, will be completely modern in design and appointment. Plans call for a vessel with an over-all length of 350 ft., a breadth of 52 ft., and a speed of 18 knots. She will have accommodation for 322 passengers, all in outside cabins, and will be manned by a crew of 20 officers and 112 men. Cargo space will be 50,000 cubic feet of which 5,000 cubic feet will be refrigerated. The new ship will provide service between Vancouver, Prince Rupert, B. C., and Skagway, Alaska.

Long Island Dispute Nears Showdown

District 50 changes tactics to dispute railroad's testimony to board

During the second week of hearings by a 3-man "fact-finding board, concerned with the wage increases and 220 rules changes proposed by District 50, United Mine Workers, A. F. of L., to the Long Island, it developed that one phase of the case had changed since the last issue of *Railway Age* appeared. After stating on September 10 that no case would be presented by the union, its counsel, Yelverton Cowherd, on September 17 did put a witness on the stand to discuss the union's interpretation of the proposed rule changes. The hearing is being held in the Federal Court House, New York.

During the hearing on September 19, the board announced that it had discovered that its recommendations were due to be presented to Mr. Truman on September 21. Feeling that complete consideration of the issues could not be accomplished in the short time left, the board proposed asking the President for a 2-day extension, to which both the carrier and the union agreed. Unless canceled or further postponed, a strike of Long Island employees represented by District 50 is set for September 24.

As the September 14 issue of *Railway Age* went to press, the case for the carrier was being presented by E. L. Hofmann, superintendent. Mr. Hofmann asserted that the passenger pay proposals of District 50 alone would boost the railroad's annual payroll costs by 74.3 per cent, without consideration of any rise in costs resulting from the many proposed changes in working rules.

The carrier submitted to the board an exhibit which is its estimate of the payroll cost to the railroad if only the proposals regarding rates of pay, basic day and overtime, in both passenger and freight service, were extended to Long Island engine and train service employees not represented by District 50. The net increase in annual wages to this group would be approximately $2,699,894, according to the carrier, in addition to which the payroll cost would be increased $1,631,359 for those represented by the U. M. W.

Other Proposals — In discussing the union's proposals dealing with rules governing compensation of ticket collectors and brakemen in passenger service, Mr. Hofmann stated that the combined effect of these proposals would be to make the following changes in the rates and rules now in effect:

1. Increase the basic daily rate by approximately 20 per cent.

2. Increase the potential number of miles for which compensation must be paid in addition to the basic daily rate.

3. Increase the rate at which each of such over-miles shall be paid for from 1/150th of the present basic daily rate to 1/100th of the proposed increased basic daily rate.

4. Increase the number of hours for which overtime must be paid.

5. Increase the rate at which such overtime must be paid from one-eighth of the present basic daily rate to three-sixteenths of the proposed increased basic daily rate.

Charging that the union has failed to present any adequate reason for the abandonment of the so-called dual basis of pay, Mr. Hofmann went on: "In fact, they do not seek to abandon it entirely, but merely intend to change one feature of it to their own advantage and to retain the other features to the extent that they presently benefit the employees. . . . They would increase the potential number of . . . overmiles, and they wish to be paid for such over-miles at a higher rate than exists under the present rules. . . . Briefly stated, the employees wish to remain piece workers insofar as the miles actually operated are concerned, but wish to be time workers when it comes to the question of overtime."

In a discussion of District 50's demands on rates of pay, basic day, overtime and guarantees in freight service, E. H. Rigg, assistant passenger trainmaster, appeared before the board. Mr. Rigg characterized as "greatly exaggerated" the union's complaint that many employees are now required to work seven days a week for long periods of time. The reason that some men may work seven days per week, he stated, is that the Long Island is a seasonal railroad, with heavy traffic to the race tracks and beaches during the summer but a more even passenger flow in the winter months. Said Mr. Rigg: "During the winter period from January 1 to May 31, 1946, the record shows that there were no individuals who worked seven days a week for the entire period. The great preponderance of the men — 79 per cent — averaged at least one day off a week during the winter period, and most of the 79 per cent averaged more than one day off a week. . . . For 11 of the 13 weeks during the current summer period, the record shows that there were only 34 individuals out of a total of 1,028 who worked seven days a week during that period. . . . During the same period when there were 34 men who had no days off, there were large numbers of men who averaged more than one day off a week."

Six-Day Week at Issue—In discussing the District 50's proposal involving the six-day work week, Mr. Rigg stated: "If the railroad maintains a large enough number of extra men to insure . . . adequate service in all circumstances, many men will be on the list who will work only infrequently and yet will be paid for six days a week under the proposal . . . there will be periods when, because of the fluctuations of traffic, it would be necessary to work regular men on their relief days and pay them the penalty rate of time and one-half. This course would defeat the very things that the employees say they are trying to accomplish."

Continuing his testimony, Mr. Riggs cited examples to show the probable effects of the union proposals dealing with performance of work outside of regular assignments. One rule provides for a minimum of an additional day's pay when any deviation from the work of an employee's immediate assignment occurs with, as Mr. Rigg stated, "no explanation as to what constitutes a deviation." Another rule provides that road freight trainmen will be given an additional day's pay when they perform work classified as work train, wreck train or construction service in addition to their road trip or assignment, he said: "In other words, instead of paying the highest rate applicable . . . now in effect on the American railroads, each brakeman and collector will receive an additional day's pay for each deviation and for each of the services performed."

According to Mr. Riggs, other proposals by District 50 would compel the railroad to use different crews for handling trains in and out of stations than those which bring empty trains into stations from the yards and return them there. At busy stations, he explained, this would result in serious delays, and the additional crews required would result in "staggering payroll increases" estimated at 630,000 annually, at present rates of pay in excess of present passenger and freight yard service.

Still other proposals, Mr. Rigg told the board, demand extra pay on top of regular pay for the time spent by crews while passengers are unloaded and trains are taken to yards, for all time in excess of 15 minutes between the time of reporting for duty and the time of train departure, and for delays in arriving at terminals.

Following the testimony by Mr. Rigg, Mr. Hofmann again took the stand. Stating that some of the movements ("lap-backs", side trips and doubling hills) were in many cases unavoidable, Mr. Hofmann declared that the union's demand for an extra day's pay "would impose an unjustified penalty upon the railroad for services which are a normal and necessary part of railroad operation."

Concerning the proposed release of train crews as a "unit," Mr. Hofman went on, the effect would be to require the railroad to relieve all members of the crew at the same time, all members of the crew being held on duty under pay until the last member completed performance of his individual duties.

Completing discussion of but 15 of 58 issues it was prepared to argue, the carrier in an unexpected move ended its affirmative case before the "fact-finding" board on September 16. Guy W. Knight, counsel for the railroad, filed prepared statements on each of the remaining 43 issues, and stated that time left the railroad would be reserved for rebuttal, "if any is necessary."

Union Testimony—Having announced at the opening of the hearing that the union counsel would present no affirmative case and would cross-examine no carrier witnesses, but might "reply" to statements made by the carrier, Yelverton Cowherd, counsel for District 50, in introducing the first witness for the union, emphasized that, since no one was under oath, questions from other than the bench would be disregarded.

The first witness in the union's presentation was J. Earl Kelton, who stated he worked for the Long Island since 1921 and has been a brakeman and conductor since 1929. Mr. Kelton testified that the union asks the same amount of pay per month as the men have received up to the present, with the exception that it be for 26 days instead of 30 days as heretofore. Further, Mr. Kelton declared that in recent negotiations between the union and the railroad's management, the union was offered even more for passenger service by the carrier than they now ask under the proposals submitted to the board.

Continuing, Mr. Kelton said, in discussing guaranteed rates of pay in freight service, that the assignment, not the man, carries the guarantee and the union proposes that the guarantee be switched to the man instead of the job. The employees feel, he said, that too often the guarantee may be applied for the benefit of the management and to the detriment of the employee. He cited as an example a case where the railroad could not compel any one of a number of available employees to accept an undesirable job and thus would not be required to pay for the job but wipe it off the books.

In describing the nature of the 6-day work week the union wants put into effect, with one day of relief out of each seven for each man, Mr. Kelton said that the union felt sure if such a work week were adopted it would mean the end of what is now called the "3 S Club", or the Saturday-Sunday Sicklist, membership in which is extremely large according to his testimony.

To refute earlier statements by the carrier to the effect that only a very small minority of employees were required to work over a nine-hour day, Mr. Kelton submitted to the board a breakdown of hours of service of some 317 collectors on what he called a typical summer day, from which the following figures are quoted:

Hours of Service Brackets	Number of Assignments	Per cent
Under 6 hours	4	1.2
Over 6 hours—under 7	9	2.8
Over 7 hours—under 8	11	3.5
Over 8 hours—under 9	20	6.3
Over 9 hours—under 10	18	5.7
Over 10 hours—under 11	49	15.5
Over 11 hours—under 12	158	50.2
Over 12 hours—under 13	47	14.8
Totals	317	100.0

As Mr. Kelton continued his statement to the board he declared that in view of the fact that the union and the management of the Long Island had discussed together the interpretations of many of the proposals now being put before the board, he was surprised at the carrier's claims throughout the hearing of the ambiguity of the proposals. He further denied that the union was attempting to force hardships upon the carrier and said he felt that the management has misinterpreted the intentions of the union regarding compensation for extra work or for work outside the regular assignments. He felt that the Long Island was giving the union no credit for common sense or for a feeling of responsibility to assignments.

As this issue went to press Mr. Kelton

was continuing his discussion of the Long Island's interpretation of the proposed rules changes and offering further amplification and interpretation of the changes from the union's viewpoint.

Canada Increases Demurrage

Penalty demurrage charges, effective after expiration of free time, have been applied by the Canadian government's transport department in a further effort to cope with what is described as a desperate freight car situation. The order was effective September 16. It imposes charges on a sliding scale from $1 to $10 per day on box, gondola, hopper and ballast cars, except on cars awaiting unloading at ocean ports.

The transport department stated that the "acute" car situation results from "the need of 60,000 box cars to move Canada's new grain crop, 2,000 cars for the movement of coal from the Alberta coal mines, and the rapid return of United States coal cars to handle the coal movement from that country."

New York-Florida Winter Trains to Resume Service

The "Florida Special," "Miamian" and "Vacationer," Florida East Coast-Atlantic Coast Line winter trains between New York and the east coast of Florida, which were discontinued during the war, will be operated again this season, George L. Oliver, F. E. C. passenger traffic manager, has announced. Present plans call for the inauguration of these trains around December 12.

Started in 1888, the "Florida Special" proved an important factor in building up winter travel, and has since been run continuously each season except for the recent war years. "The Miamian" was inaugurated some years before the war as an all-Pullman winter train from New York and the East. Both trains will carry all-Pullman equipment this winter.

The "Vacationer" was designed to provide luxury coach accommodations to Florida. It will operate this season as a fast coach train between New York and Miami, with ample tavern-lounge facilities.

Shorter Turn-Around Time for Coal Cars Is Stressed

Emphasizing that shortening the turn-around time for coal cars is the key to the problem of handling the record-breaking amount of coal that is being moved from mines to market, Robert S. Henry, assistant to the president of the Association of American Railroads, at a meeting of the Ohio Coal Conference, in Cincinnati, Ohio, on September 10, declared that saving a day in the turn-around time of the average car of coal would make possible additional loadings of nearly 20,000 cars a week. This figure, he added, isn't far from the shortages presently reported.

"Records for the movement of coal are being broken in all directions," Colonel Henry said. "In several recent weeks, coal dumpings at the Lake Erie ports have exceeded the former records of 2,000,000 tons a week, in each of the months of July and August, coal exported exceeded 2,500,000 tons—enough to fill an average of ten ships a day. But the big movement is the every day movement by rail from mine to final market all over the United States, and that movement, in August, averaged more than 200,000 cars a week, including both revenue coal and the coal used by railroads themselves."

Colonel Henry pointed out that loadings are now nearly 35,000 cars a day, with unfilled orders for coal cars averaging about 3,500 per day. Discussing the prospects of bettering, or at least maintaining, the present 90 per cent placement of cars ordered for loading coal, he reported that there are 15,000 fewer hopper and gondola cars than were on hand a year ago, but that one-third of the 57,000 cars now on order are suitable for coal loading. He also pointed to the slowness of new car deliveries, shortage of materials and production difficulties, and observed little likelihood of any great improvement soon. He reported that some additional cars for coal loading can be expected this winter when loadings of construction materials slacken due to bad weather.

Stressing the importance of getting more use out of cars now available, Colonel Henry said, "Fortunately, we are moving in that direction. Cars are being loaded fully, and the average turn-around time per trip is coming down. In July, the average turn-around time on hopper cars was below 12½ days, which is equal to performance during the war. August figures are not available, but there is reason to believe that they will show continued improvement.

New Haven Explains Delays to Commuters

Reasons for delay and crowding of commuter trains entering New York have been explained in an illustrated booklet given to commuters on the New York, New Haven & Hartford.

The booklet points out that the present situation can be attributed largely to the fact that the railroad is carrying an unprecedented number of passengers. For example, it has carried 43 per cent more commuters into Grand Central terminal and the 125th Street station during the first seven months of 1946 than in the same period of 1941. The increase over the same period last year is 8 per cent.

The railroad explains that it is impossible to add more cars to commuter trains because in so many cases the trains already extend beyond the length of the station platforms and in the case of the Grand Central station the trains are already as long as the terminal platform lengths will permit.

As for adding more trains, the New Haven points out that no additional trains can be added during the 8:00 a.m. to 9:30 a.m. peak because safety demands at least a two-minute headway between trains entering Grand Central. In an effort to alleviate that situation, three of the four main line tracks carrying traffic through the tunnel into the station are used for inbound trains during the morning rush hours.

Eight-Months Ton-Miles

The volume of freight traffic handled by Class I railroads in the first eight months of 1946 was approximately 21.6 per cent under 1945 and about 23.7 per cent less than in the corresponding period in 1944, according to a preliminary estimate by the Association of American Railroads. Freight traffic in the first eight months of 1946 totaled approximately 378 billion ton-miles compared with 482 billion ton-miles in the same period last year. Compared with two years ago, the decrease was 118 billion ton-miles.

August traffic amounted to about 54 billion ton-miles, a decrease of five per cent compared with August, 1945. The amount of traffic handled by the Class I railroads in August this year, however, was 88 per cent greater than the volume carried in August, 1939.

The table summarizes revenue ton-mile statistics for the first eight months of 1946 and 1945.

	1946	1945	Per cent change dec.
First 6 months	272,359,422,000	364,692,318,000	25.3
July *a*	51,500,000,000	60,720,580,000	15.2
Aug. *b*	54,000,000,000	56,823,307,000	5.0
Total 8 months	377,900,000,000	482,236,205,000	21.6

a Revised estimate
b Preliminary estimate

I. C. Speeds Trains

The Illinois Central on September 29 will effect a general speed-up of many of its important passenger trains, and at this time will substitute Diesel-electric for steam power on the "Daylight" and "Night Diamond" between Chicago and St. Louis, Mo., and on the "Land-O'-Corn" between Chicago and Waterloo, Ia., while the schedule of the "Panama Limited," already the fastest ever operated between Chicago and New Orleans, La., will be quickened 30 min. in each direction, as well as 15 min. southward from St. Louis, and 1 hr. 8 min. northward to St. Louis. Other trains affected will be the "Daylight," the "Night Diamond," the "Land-O'-Corn," and the "Hawkeye" from Sioux City, Ia., to Chicago.

The present streamlined equipment of the "Green Diamond" is being withdrawn from service for major overhauling, pending its assignment to another run, and standard equipment will be substituted. As soon as new equipment now being built for the I. C. is completed, it will be assigned to the "Green Diamond," the "Daylight," and the "Land-O'-Corn," making them streamlined trains throughout. In the meantime, because of the larger capacity of the equipment to be assigned to the "Green Diamond," the coach reservations heretofore required of passengers using that train will be discontinued.

Under the new schedules, the "Panama Limited" will leave both Chicago and New Orleans at 5 p. m., 30 min. later than at present, while retaining the existing 9:30 a. m. arrivals. The St. Louis connection will leave that station 15 min. later than at present and northward will arrive 38 min. earlier, effecting a 1 hr. 8 min. reduction in the northbound schedule. The "Land-O'-Corn" will leave Chicago at 4:30 p. m., 1 hr. later than at present and arrive in Waterloo at 9:55 p. m., 10 min. later. Eastward, this train will continue to depart from Waterloo at 6:45 a. m., but its arrival in Chicago at 12:15 p. m. will be 20 min. earlier. The "Hawkeye" will depart from Sioux City at 6:45 p. m., as

now, and will arrive in Chicago at 8:30 a. m., 20 min. earlier. Twenty minutes will also be cut from the schedule of No. 32, the Champaign (Ill.) to Chicago local.

On the St. Louis Line, the 5 hr. 10 min. running time of the "Green Diamond" remains unchanged, but the train will leave Chicago at 5:15 p. m., instead of 5 p. m. It will run 5 min. later than at present on the northward trip. The "Daylight" also will become a 5 hr. 10 min. train, instead of 6 hr., as at present, and will leave Chicago at 11 a. m., 10 min. earlier, arriving in St. Louis at 4:10 p. m., instead of 5:10 p. m. Northward this train will leave St. Louis at 5 p m., instead of 12:05 p. m., with arrival in Chicago scheduled for 10:10 p. m., instead of 6:05 p. m. The "Night Diamond" will be unchanged from Chicago to St. Louis, but will be quickened 15 min. northward to afford better connections with late evening arrivals in St. Louis. It will leave at 12:30 a. m., instead of 11:45 p. m., and arrive in Chicago at 7:30 a. m., 30 min. later.

Dairy Show Features I. C. Breeding Aids

Illinois Central assistance to the dairymen of the Mid-South area was publicly recognized on August 23 when the 18th Annual West Tennessee Jersey Show, held at Yorkville, Tenn., was dedicated to Paul R. Farlow, general agricultural agent of the railroad. Started by the Illinois Central's Agricultural Department 18 years ago, the show has grown to be the largest and best-attended of any held along I. C. lines in the South. This year's exhibition attracted more than 3,000 persons.

Special articles in Memphis and Nashville daily papers and a 15-minute broadcast from the exhibition grounds paid particular attention to the work carried out by the Yorkville Artificial Insemination Association, whose 235 members, owning 1,350 cows, have built up their herds by utilization of five high-grade bulls owned and made available to the association by the railroad. While Yorkville's is the first such association to have been established, the Illinois Central is now furnishing bulls for similar purposes to 11 organizations located along the railroad from Denison, Iowa, to Ruston, La.

Agent Farlow told the press that artificial insemination methods, as compared with ordinary breeding, have made it possible to produce as many calves from the bulls now owned by the railroad as from the 300 animals formerly loaned to herd-owners. The bulls made available for use under the new methods are the best obtainable. "The railroad does this to improve the dairy herds along its lines and thereby improve the farmer's income. Illinois Central will prosper in direct ratio to the prosperity of the farmer."

A. A. R.'s Treasury Division to Meet at Edgewater Park

Wayne A. Johnston, president of the Illinois Central, Robert S. Henry, assistant to the president of the Association of American Railroads, and H. W. Siddall, chairman of the Trans-Continental and Western Passenger associations, will be speakers at the annual meeting of the A. A. R.'s Treasury Division to be held September 25 to 27 at the Edgewater Gulf Hotel, Edgewater Park, Miss. This will be the first meeting of the division since its September, 1941, sessions at Colorado Springs, Colo., and Secretary E. R. Ford's program notice said that the five-year interval has turned up for the agenda "many subjects of interest and concern to railway treasury officers."

I. C. President Johnston and Colonel Henry will speak at the opening session on September 25, while Mr. Siddall's address is scheduled for Septembed 27's closing session, when there will also be an informal address by E. H. Bunnell, A. A. R. vice-president in charge of the Finance, Accounting, Taxation and Valuation Department. A. E. Tate, treasurer of the Southern and chairman of the division, will preside at the meeting.

In addition to the addresses, the program calls for presentation of various committee reports and an election of officers. The committee reports will cover the five-year period since the previous meeting. Also before the meeting will be the proposed Manual of Treasury Procedure, copies of which were recently furnished to all members by Mr. Bunnell.

C. & O. Not Dropping On-Train Ticket Sales

R. J. Bowman, president of the Chesapeake & Ohio and Pere Marquette, has denied reports that the experiment with on-train sale of tickets on the twin streamliners, the "Pere Marquettes," put in service last month, had been found impracticable and was scheduled for abandonment on October 1.

"The report of the proposed abandonment of the test is absolutely without foundation," Mr. Bowman said. "The plan has been tried out for only about a month. That is too brief a period on which to base any conclusion regarding it. During that brief period, however, there has been a sustained gradual increase each week in the number of passengers availing themselves of this convenient method for making reservations by telephone and picking up tickets and seat accommodations aboard the streamliners.

"It is our conviction that the more widely the advantages of this plan become known through the medium of the promotional advertising we have in mind," Mr. Bowman continued, "the more extensive will be its adoption by the travelling public. Certainly, we are not discouraged as to the outlook for the plan in so early a stage of experimentation. We feel that the features of this plan, which are conducive to the convenience of passengers, will have wide appeal."

Equipment Installed

Class I railroads installed 26,825 new freight cars in service in the first eight months of 1946, according to the Association of American Railroads. These included 5,257 put in service in August, the largest number in any calendar month since May, 1942, when 6,805 new freight cars were placed in service. The number installed has fluctuated this year from a low of 2,350 in February to 3,650 in May. New freight cars put in service in the first eight months of 1945 totaled 27,740.

Those installed in the first eight months of this year included 10,522 hopper, including 2,772 covered hoppers; 3,793 gondolas, 621 refrigerator, 119 flat, 1,775 automobile box and 9,995 plain box freight cars.

The Class I roads also put 322 new locomotives in service in the first eight months this year, of which 73 were steam, and 249 were Diesel-electrics. New locomotives installed in the same period last year totalled 408, of which 59 were steam and 349 were Diesel-electrics.

Class I roads on September 1, had 50, 169 new freight cars on order. On the same date last year, they had 38,249 on order. The former total included 13,042 hopper, including 2,114 covered hoppers; 4,273 gondolas; 1,099 flat; 16,841 plain box; 6,558 automobile; 8,056 refrigerator, and 300 miscellaneous freight cars.

Locomotives on order on September 1 totaled 556, compared with 512 on the same date in 1945. The former figures included 69 steam, six electric and 481 Diesel-electric locomotives compared with 107 steam, and 405 Diesel-electrics one year before.

Car Builders Urge Rate Action

A plea for a "living wage" through prompt rate increases for the railroads to avert a freight service breakdown and the crippling of the nation's reconversion program was made this week by the board of directors of the American Railway Car Institute.

"The seriousness of the situation from a national economic standpoint cannot be overemphasized," said the statement of the board, released by S. M. Felton, president of the institute. "Official governmental sources point out that the demand for freight cars for the past three months has exceeded the supply and that the actual peak of demand is not expected for several months. Moving parallel with this critical shortage is the steadily declining financial position of the railroads which will prevent them from buying the freight cars that are needed. New rolling stock cannot be obtained nor general rehabilitation of property undertaken with operating deficits.

"Every statistic available shows plainly the financial difficulties toward which the railroads are moving, with the resultant impact upon our national economy," the statement continued. "Rising payrolls and higher costs for materials, such as are being experienced by all industries, must be offset promptly by the Interstate Commerce Commission with increases in freight rates or the roads will be further incapacitated in their vital task of moving the nation's goods. During the war the railroads did a remarkable job under many handicaps. They had to make each car do the work of two. Ton-miles more than doubled. Cars wore out faster, while replacement was virtually stopped by diversion of manpower and materials to war uses. War-time earnings that would have made possible rehabilitation of railroad plant and equipment are being siphoned off by tremendously increased costs.

"During the first seven months of this year, the more than one hundred Class I railroads reported a net of only $11,000,000, or about four one-hundredths of one per cent on the 28 billion dollar railway plant."

the statement concluded. "Obviously, the answer to making the nation's transportation system healthy is to grant immediately rate increases that will provide a living wage for the railroads."

Freight Car Loadings

Loadings of revenue freight for the week ended September 14 totaled 907,169 cars, the Association of American Railroads announced on September 19. This was an increase of 112,686 cars, or 14.2 per cent, above the preceding week (which included Labor Day), an increase of 51,068 cars, or 6.0 per cent, above the corresponding week last year, and an increase of 15,683 cars, or 1.8 per cent, above the comparable 1944 week.

Loading of revenue freight for the week ended September 7 totaled 794,483 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, September 7

District	1946	1945	1944
Eastern	146,906	128,740	145,882
Allegheny	176,445	155,554	180,182
Pocahontas	54,597	45,891	54,644
Southern	117,728	101,263	113,375
Northwestern	123,078	125,030	134,717
Central Western	119,408	119,507	128,066
Southwestern	56,321	53,869	68,300
Total Western Districts	298,807	298,406	331,083
Total All Roads	794,483	729,854	825,166
Commodities:			
Grain and grain products	42,746	51,498	45,621
Livestock	9,777	16,810	17,953
Coal	166,900	144,557	158,351
Coke	12,912	10,996	13,359
Forest Products	45,941	36,756	42,096
Ore	66,392	70,471	75,318
Merchandise l.c.l.	108,083	92,931	100,077
Miscellaneous	341,732	305,835	374,211
September 7	794,483	729,854	825,166
August 31	908,440	860,342	897,603
August 24	884,957	853,426	904,871
August 17	887,570	652,832	886,623
August 10	899,084	870,002	895,181
Cumulative total, 36 weeks	27,695,892	29,488,196	30,044,069

In Canada.—Car loadings for the week ended September 7 totalled 70,406 cars, as compared with 78,711 cars for the previous week and 66,019 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canad:		
September 7, 1946	70,406	32,509
September 8, 1945	66,019	30,341
Cumulative Totals for Canada:		
September 7, 1946	2,432,645	1,223,332
September 8, 1945	2,469,196	1,294,220

Railroads' Predicament Put Up to Their Customers

Addressing the luncheon meeting of the Ohio Valley Transportation Advisory Board, held September 17 at Louisville, Ky., Roy B. White, president of the Baltimore & Ohio, discussed the nation's stake in its railroads, particularly in the light of the treatment those railroads are currently receiving at the hands of government agencies.

On the one hand, he pointed out, Congress has authorized the expenditure of $945 million more for waterways, of a half-billion dollars yearly in "federal aid" for highways, and of a half-billion dollars in additional subsidies for the airlines in the form of more and better airports. On the other hand, other agencies of the government have so modified wage and price standards that the railroads' annual operating costs will be increased more than a billion dollars.

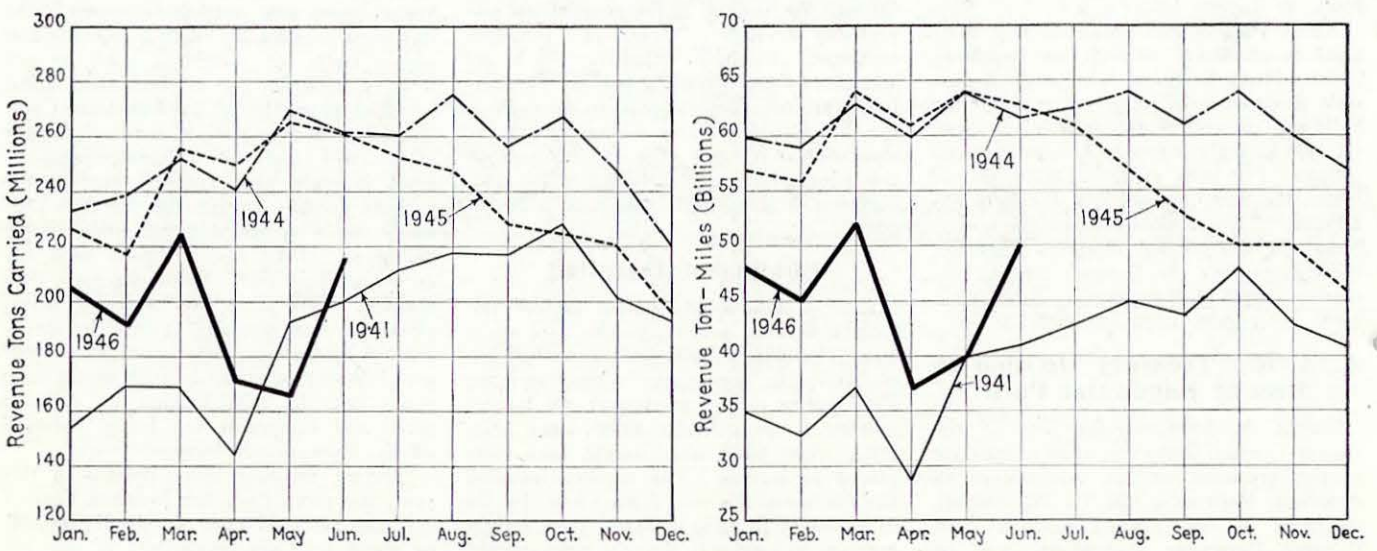
"Just a year ago railroad managers were encouraged about the future of the industry," said Mr. White. The railroads, with the cooperation of the shippers, had given "an unprecedented demonstration of their ability to handle the mass transportation load of this country during the critical war period. As other agencies of transportation had become unable to do their share, for reasons largely beyond their control, the railroads had taken on the load of one after the other, and carried through. They had handled 90 per cent of all the war material, and 97 per cent of all the organized troop groups, moved inter-city. They were literally the conveyor belt that kept the stream of the products of farm, mine and factory ever moving to the front to keep the war running. No greater contribution was made to the success of our war effort.

"At the war's end there were other reasons for optimism about the future of the railroads. They were confidently looking forward to the rehabilitation of their properties, to modernizing them and providing their patrons with the finest service the world has ever known. They counted on this with confidence because there could be no possible doubt as to the nation's dependence on them and because of the know-how they had gained under the stress of war and with the technological advances that would be available for their use.

"Furthermore, the railroads believed that the job which they did during the war crisis had again proved that rail transportation is indispensable in this nation's economy. They believed also that by virtue of all of this they would be assured an equality of opportunity with other agencies of transportation and other industries, and would be permitted to receive the fair earnings that are so essential to keep them strong and efficient and to sustain their credit. . . .

"Situated as the railroads thus are at the very heart of our national and community well-being, it must be plain to all who stop to consider it that when and to the extent rail transportation is threatened so also is our whole economy. The prevention and correction of unsound economic conditions in our indispensable rail transportation industry therefore becomes, in final analysis, not only a matter of great public concern, but of real private concern to each of us.

"I regret that in discussing with you today the nation's stake in the railroads I am obliged to emphasize conditions in rail transportation which are unsound and call for correction, if the adequate rail service which you need and are entitled to receive is to continue to be supplied to you by the efforts of private enterprise. One of these unsound conditions of serious proportions is the steady undermining of our nation's railroads by the huge grants of public funds to build and maintain the facilities of their competitors. Right now, I want to point out as forcibly as I can the full import of another condition that has railroad management profoundly perplexed. It is one which has retarded and for the most part, completely stopped improvement work and



Revenue Tons and Revenue Ton-Miles—1946 Compared with 1941, 1944 and 1945

eliminated the prospect of heavy rehabilitation work. It is the critical financial situation which now confronts railroad management by reason of the heavy increases in operating expenses due to increased wages, increases in prices of material and fuel and heavy increases in payroll taxes, with no relief thus far allowed sufficiently adequate to even approach meeting these increases, and nothing to maintain and sustain the industry's credit which is so essential to the continuation of a healthy and strong rail transportation system.

"When the railroads were confronted with the unprecedented amount of these increases they were without any alternative but to seek prompt relief from the Interstate Commerce Commission in the form of permission to increase their freight rates enough to enable them to meet the situation. This as you all know, was done, but the relief asked for was based upon their needs before the Crosser bill was passed further increasing their payroll taxes $85,000,000, based on 1946 payrolls. The slight increase granted by the commission as of July 1 does very little to supply the needed relief.

"The patrons of the railroads, I think, understand the necessity for the compensating increases sought. The state and federal authorities have been liberally supplied with most convincing evidence disclosing the facts in connection with the present unfortunate situation, but unfortunately, the proceedings and hearings have been lengthened until now it would appear that no decision may be forthcoming before the end of the year.

"It is true that on some of the railroads, the tax carry-back will enable the roads so favored to break even this year, but this offers no encouragement for next year and the future, and the needed improvements and rhabilitation cannot go forward until the industry knows where it stands. After this year, which will soon be at an end, there will be no such windfall carry-back.

"In my lifetime the United States has not been prosperous except when heavy construction was going on in a big way. The consumers' buying power, of which we have heard so much during the past several years, has never kept our people employed or the nation prosperous. It requires the heavy use of heavy goods. Railroads are the greatest purchasers of heavy goods, as well as the largest employers of labor. No town, city, state or nation has ever been prosperous without a well-maintained, well-equipped and prosperous transportation system. It would seem that simple reasoning points convincingly to the importance and value to the nation and its people of insuring a prosperous railroad industry. This alone emphasizes the necessity for prompt and effective rate action. . . .

"The railroads do not object to competition and they do not want any subsidy. They think all forms of transportation should stand on their own bottom. They believe the public should have any kind of transportation their needs will support. They recognize that untried projects at first often need public assistance to demonstrate their worth but they also believe that when this worth has been established, as is now the case, such projects should stand on their own feet and public subsidies and the unfair and unequal competition they create should be stopped. The railroads also believe they should have the same opportunity as others to engage in any method of transportation which will improve the transportation machine of the nation, and the true economy of all transportation. . . .

"Meantime we have a large backlog of undermaintenance that accrued during the war, and that should be taken care of promptly if we are to continue and increase the efficiency of our service. The Baltimore & Ohio should for some time to come lay at least 100,000 tons of new rail each year. We did better than that for the five-year period, 1926 to 1930. We did much less during the succeeding ten years period of the depression, and only half as well during the war years when we could not get it. If we were able to buy sufficient rail now to make up for the undermaintenance of the seven-year period, 1940 to 1946, it would take 350,000 tons, or an investment of about $17,000,000. And good rail and roadbed are the foundation of good railroading. . . .

"The plight in which the railroads stand today before the public cannot, in safety to ourselves, be permitted to continue. Its correction along the lines I have tried to indicate will, I have faith to believe, persuasively appeal to your own enlightened self-interest and to the traditional American sense of fair play.

Thomas J. Tobin a Vice-President of Controllers Institute

Thomas J. Tobin, controller of the Erie, Cleveland, Ohio, was elected a vice-president of the Controllers Institute of America at the fifteenth annual meeting of the institute, held September 15-18 in the Hotel Commodore, New York City.

The institute is a technical and professional organization of controllers devoted to the improvement of controllership procedure.

New York-Chicago Lines Plan Schedule Changes

A new early evening departure from New York for the "Admiral," Pennsylvania Pullman and coach train to Chicago, still providing morning arrival, will become effective September 29, the railroad has announced. The new schedule will be established coincident with a general adjustment of time-tables in connection with the return to standard time on that date.

The "Admiral," heretofore an afternoon train, will depart from Pennsylvania station, New York, at 6:45 p. m., arriving in Chicago at 10:45 a. m., Central time. Sleeping, lounge, dining and reclining seat coach accommodations will be available.

Schedules in the Pennsylvania's New York-Chicago through service will be rearranged to provide the following departures from New York: "Pennsylvania Limited" at 3:25 p. m., the "Trail Blazer" at 4:05 p. m., the "General" at 4:55 p. m., "Broadway Limited" at 6:00 p. m., "Manhattan Limited" at 7:20 p. m., the "Pennsylvanian" at 11:40 p. m., and the "Golden Arrow" at 11:45 p. m., in addition to the "Admiral."

New and earlier departure times for the "Red Arrow" to Detroit, leaving New York at 4:35 p. m., and the "Cincinnati Limited," leaving at 5:05 p. m., will provide convenient connections at their respective terminals. Schedules of the "Spirit of St. Louis," the "Jeffersonian," the "Pittsburgher," the "Steel King," the "Congressional" and others will be adjusted under the new schedules. Local and commutation service will also be adjusted to Standard Time.

In adjusting schedules to standard time September 29, the New York Central will effect several changes in its through train service, it has revealed. The service of the "Empire State Express," at present operated between New York and Cleveland, Ohio, will be extended to Toledo, arriving at that point at 10:55 p. m. The "Wolverine" will leave New York at 6:05 p. m. and will give the Michigan cities it serves arrival times 75 minutes earlier than at present. It will arrive at Chicago at 11:50 a. m.

In order to provide earlier morning arrival at Chicago for passengers who wish a full day there, and for those making connections with morning trains to other points, the "Advance Commodore Vanderbilt" will arrive in Chicago at 7:30 a. m. under the new schedule, leaving New York at 3:30 p. m.

Club Meetings

The Toronto Railway Club will meet September 23 at 8 p.m. at the Royal York hotel, Toronto. A. A. Gardiner, general passenger traffic manager of the Canadian National, will speak on experiences and observations of some forty years of railroading.

The 72nd regular meeting of the Southwest Shippers Advisory Board will be held in Beaumont, Texas, September 26-27 at the Hotel Beaumont. The program will include the presentation of committee reports and a report on the national transportation situation which will be presented by R. E. Clark, manager, Car Service division, A. A. R.

A meeting of the New England Shippers Advisory Board will be held in Boston at the Hotel Statler, September 27. The program will consist of discussion of five important problems troubling the New England area.

The Railroad Enthusiasts, New York division, will meet September 25, at 7:45 p.m. in Room 5646, Grand Central Terminal. The program is the annual "New Haven Night" and will include a discussion on "The New Haven's Department of Industrial Development," by J. M. Graham, industrial agent for the New Haven, New York. Also on the program is a showing of a movie, "This Is New England," concerning the industrial prograss of New England.

A meeting of the Pacific Railway Club is scheduled for September 26, 7:30 p.m., at the Engineers Club, San Francisco. It is to be a joint meeting with the American Society of Mechanical Engineers, San Francisco section, similar to the last joint meeting in September, 1945. C. D. Allen, manager, transportation sales and service, the Baldwin Locomotive Works, will speak on "Current and Proposed Locomotives for Modern Transportation."

With the Government Agencies

Water Lines Control Florida Citrus Rates

So says examiner in telling I.C.C. to affirm railroad fourth-section relief

Making his proposed report on further hearing in the first group of fourth-section proceedings which were reopened by the Interstate Commerce Commission as a result of the War Shipping Administration-Maritime Commission complaint against water-competitive rail rates, Examiner O. L. Mohundro has recommended that the I. C. C. affirm the previously-granted relief from the long-and-short-haul clause, changing only the minimum car-mile-yield requirement from 12 cents to 20 cents. Presumably this requirement would be met without change in the present relief rates, which yield from 22.97 cents to 35.23 cents per car-mile, according to "typical" figures shown in the proposed report.

The report deals with the existing fourth-section relief authorizing the railroads to maintain water-competitive rates on citrus fruits in carloads from points in Florida to Baltimore, Md., Boston, Mass., New York, Philadelphia, Pa., and related points. The title case is Fourth Section Application No. 16028. The commission's order reopening the proceedings was noted in the *Railway Age* of June 15, page 1195; and it has since reopened some 60 additional cases for the same purpose of requiring the railroads to show cause why the outstanding relief from the long-and-short-haul clause should not be vacated or modified (see *Railway Age* of August 3, page 200, and August 31, page 377).

Examiner Mohundro's recommendation that the commission affirm the relief, with the suggested modification in the car-mile-yield requirement, is based on his finding that the water carriers control the rate situation, being in a position to publish increased rates which would leave the railroads with no alternative except to meet the resulting truck-boat charge. In other words, the relief which the railroads have, as the examiner summarized it, authorizes them "to meet the truck-water rates from Florida origins to the North Atlantic ports except that to Baltimore a differential of 5 cents per box (5.6 cents per 100 pounds) over the truck-water charges is maintained and to Boston a differential all-rail over the truck-water charge of 2.5 cents per 100 pounds is maintained."

Trucks Not Regulated—In this connection Mr. Mohundro also quoted from the testimony of a water carrier witness who conceded that the railroads are required under the terms of the outstanding orders to make increases corresponding with any increased truck-water rates. It was noted that the truck-rate factor was difficult to determine, but the examiner pointed out that the commission could do nothing about that since the truckers are not subject to regulation. His recommendation that the minimum car-mile-yield be increased was based on evidence indicating that costs have increased materially since the 12-cent minimum was fixed.

Meanwhile, Examiner Mohundro had rejected as "untenable" a contention that the relief should be vacated because there were no rates of competing carriers contemporaneously in effect. Here the examiner cited Division 4's report in *Pacific Coast Fourth Section Applications*, 264 I. C. C. 36, 39, which said in part: "In a narrow sense the outstanding orders herein might be considered as lacking justification during the suspension of water service. However, the widespread cancellation of fourth-section orders, where based on water competition which had ceased during the war, would have precipitated radical readjustment of rail rates and violent dislocation of our economy during a time when wartime legislation required every effort be made to stabilize conditions and control inflation. Consequently, the commission considered the suspension of water service as temporary and took no action to cancel these outstanding orders and others based on water competition."

Finally, the examiner noted that the present case had been characterized as a "landmark" for the application of the declaration of national transportation policy which was added to the Interstate Commerce Act by the Transportation Act of 1940. "Emphasis," he added, "is placed on the question whether the commission will so construe and apply this provision of the law as to impel it forthwith to vacate the fourth-section orders here in question." Mr. Mohundro's comment on this was as follows: "It is the view of the examiner that this provision of the law is complied with fully and that full compliance clearly is evidenced by the reports and orders now outstanding in these proceedings."

U. P. Asks Reconsideration of Supervisor-Status Case

The Union Pacific has filed with the Interstate Commerce Commission a petition seeking reargument and reconsideration of the recent decision wherein the commission affirmed findings of prior reports in which its Division 3 had interpreted and amended outstanding commission orders defining the work of railroad employees and subordinate officials to include the work of various U. P. supervisors. The commission's decision, which was reviewed in the *Railway Age* of August 10, page 235, has the effect of bringing the employees involved under the provisions of the Railway Labor Act.

Argument Concluded in Ex Parte No. 163

Three-hour session before commission completes R. E. A. proceeding

Oral argument in the Ex Parte No. 163 proceeding in which the Railway Express Agency seeks a general increase in rates on express traffic was held before the Interstate Commerce Commission at Washington, D. C., on September 16. R. E. A. is asking authority to (1) increase all l.c.l. rates, first class and commodity, by 20 cents per 100 lb., and related second class rates by 15 cents per 100 lb.; (2) revise graduated charges on shipments under 100 lb. to the basis of pound rates plus 50 cents, with certain exceptions; (3) increase all minimum charges and all package charges other than first-class and second-class graduated charges by 30 cents and (4) increase money rates by 20 cents per $1,000 and all money classification graduated charges by 30 cents.

J. H. Mooers, attorney for the R. E. A., told the commission that the relief now sought will approximately cover the increased costs of wage awards since the last rate change of 1942, when an emergency charge of 10 cents on each l.c.l. shipment was imposed. Adding that the proposed adjustment in rates "will not correct the downward trend in express privileges ratios or restore payments to the carriers for transporting express to a reasonable basis," he said that efforts are being made to control and reduce expenses in every manner possible "but there will still remain the need for further rate changes to produce revenues necessary for the maintenance of adequate express service." He said that studies are being made and further rate proposals will be submitted to the I. C. C. "as soon as possible."

"The latest addition to express costs, the 18½ cents an hour wage increase, is, with payroll taxes, increasing expenses over $3,000,000 per month," he continued. "By September 30, the increase in expenses from this one item will be approximately $27,500,000, wholly unrecoverable from any rate adjustment regardless of how soon now authorized."

Inadequate Return—Mr. Mooers noted that the advances now sought would not put the express business "on its feet." He asserted that the boosts would result in an express privileges ratio of 28.45 per cent for the "prospective year," as estimated by the R. E. A. "This means that the railroads will get but 28.45 cents out of the express dollar for hauling the traffic, a payment far below any standard recognized in the past," he said.

(Continued on page 491)

"Research" Exhumes B. I. R.'s Findings

Recommendations reworked by Childe and sold to small business committee

Various recommendations of the defunct Board of Investigation and Research have been reworked and sold to the Senate small business committee's transportation subcommittee by C. E. Childe, former B. I. R. member, who has been employed by the subcommittee as a "consultant" since the study board created by the Transportation Act of 1940 folded up two years ago in something less than a blaze of glory. The reworked recommendations together with an accompanying report by Mr. Childe were made public this week by the subcommittee's chairman—Senator Stewart, Democrat of Tennessee.

They call for amendments to the declaration of national transportation policy to require that "all rates and charges for transportation services (a) be reasonably related to the cost of performing the service economically and efficiently; (b) be free from all discriminatory inequalities; (c) be made applicable over all routes and for all classes of transportation services needed by shippers; and (d) that governmental restrictions upon carriers that increase the cost of their service be removed." Also recommended is the creation of three new permanent federal transportation agencies—a federal transportation authority to undertake transportation research, promotion and planning, a national transportation advisory council to advise the authority and criticize its work, and an office of public transportation counsel in the Department of Justice.

More "Study"—It is also recommended that Congress direct the Interstate Commerce Commission to make effective within two years a uniform freight rate classification and a uniform scale of class rates "reasonably related to the average cost of performing the transportation service economically and efficiently." Meanwhile the proposed new federal transportation authority would be directed to make a "thorough study" of the movement of traffic, rate relationships and similar matters, transmitting its findings and "recommendations as to readjustments" to the I. C. C.

Also, according to the report, the I. C. C. should be reorganized "in the interest of greater efficiency." More specifically, it is asserted that the commission should "modify its present slow and formalized procedures . . . and make greater use of informal conference methods"; it "should have an appellate division as authorized in the Transportation Act of 1940"; it "should make greater use of research"; and it "should reduce to more precise statement the principles of regulation which it has evolved and should include in its annual reports hereafter statements of regulatory principles developed."

The subcommittee thinks consideration should also be given to reduction of the membership of the commission from the present 11 to not more than five commissioners, and to reorganization of the commission by "functional divisions" along the following lines: "(1) General policy, coordination, administration, appeals, enforcement (chairman of the commission to be head of this division); (2) rates, tariffs, suspension, and fourth section matters; (3) certificates, permits, construction, acquisition, abandonment; (4) carrier service, safety; (5) carrier finance, valuation, consolidations, mergers, statistics, reports, accounts."

Remaining recommendations are set out in the subcommittee's summary as follows:

Carrier taxes should be revised.

An interstate system of highways should be designated and developed over which interstate commerce may move unhampered by conflicting and discriminatory state restrictions.

The Interstate Commerce Act should be amended abolishing uneconomic restrictions upon motor and water transportation.

Agreements in restraint of competition between carriers should be prohibited, except those publicly entered into for purposes necessary to comply with the interstate commerce laws and the national transportation policy.

Great economies are possible through modernization and coordination of transportation facilities, but large-scale consolidations and integrations of carriers and their services should not be undertaken until adequate plans and safeguards are provided, in protection of the public interest.

Consideration should be given to the creation of a Department of Transportation, with a cabinet officer at its head.

How to Tax Trucks—The foregoing tax recommendation, as spelled out in the report, calls for a nine-point program, including a Railroad Retirement Board-Social Security Board study of the "feasibility of equalizing retirement-tax rates on railroads and their employees with other carriers." Other phases of the program would identify federal taxes on gasoline as "user taxes," and establish a "uniform basis" of taxation of commercial motor carriers "developed by classification of vehicles as (1) mainly interstate and (2) mainly intrastate." Then interstate taxation would be worked out "on a relative highway-use basis," and intrastate taxation would be based "on gross-weight capacity of vehicles," the vehicle manufacturers being required by law "to certify the true capacity of vehicles on a uniform formula."

Also, under the taxation recommendation, the Public Roads Administration and state highway authorities would be called upon to make "comprehensive studies of road and highway uses and costs as a basis for scientific and fair apportionment of highway costs among the vehicles of all types using the highways." At the same time a proposed "federal-state highway relations committee" would be working "toward cooperative solutions of size and weight standards, licenses, and other questions of taxation and operation." And the states with the assistance of this relations committee, the Council of State Governments and the National Association of Tax Administrators would be undertaking to adopt "a more effective program of carrier taxation, providing for central assessment of carrier property; uniform methods of interstate allocation; exchange of information on unit appraisals and tax bases between states; equalizing of state and local assessments; prevention of evasions, duplications of effort, and discriminations against carriers and users of transportation."

Finally as to taxes, there are the recommendations that the federal corporate income tax be amended "to remove present

(*Continued on page 493*)

Fear Huge Deficits Without Rate Increase

Further hearings in Ex Parte No. 162; argument to start September 23

Statistical evidence showing that the Class I railroads, despite the recent 6.5 per cent emergency increase in freight rates, stand to lose $225,000,000 in 1947 — even after benefit of $87,000,000 in carry-back tax credits — was introduced this week by Dr. Julius H. Parmelee, director of the Bureau of Railway Economics of the Association of American Railroads, as further hearings in the Ex Parte No. 162 proceedings, in which the railroads are seeking a 25 per cent increase in freight rates, opened in Washington, D. C., before Division 2 of the Interstate Commerce Commission. The hearings, at which Commissioner Aitchison is presiding, were scheduled to be concluded by September 21, thus paving the way for the opening on September 23 before the entire commission of oral argument in the same case.

Dr. Parmelee's revised 43-page statistical report, which pertained to traffic and income and included a comparison of railroad earnings in recent months — in addition to a voluminous amount of other financial data — was presented to the commission upon the latter's request on September 17, the opening day of the rebuttal hearings, by J. Carter Fort, vice-president and general counsel of the A. A. R., and chief attorney for the petitioning railroads. Dr. Parmelee testified on September 18, following an all-day session in which certain shippers' representatives and witnesses representing government agencies protested against the increase proposed.

Dark Prospect—Dr. Parmelee emphasized that despite record peace-time freight and passenger traffic, the prospects for future railroad earnings are "discouraging." He said that if it were not for the high level of traffic anticipated for 1946 and 1947, the combined effect of 50 per cent increases in wages and prices, together with rates held at "virtually pre-war levels," might result in "the worst financial showing in history for the railroad industry." He made this forecast in spite of a reported July net income of $32,216,000, the first month in which the interim 6.5 per cent increase was effective.

The witness, however, observed that the July net income was no indication of future earning levels, adding that more than $4,000,000 of it was in the form of carry-back credits on excess profits taxes of earlier years, a non-recurring item which he said no longer will be available after the end of 1946. He noted that payroll taxes for July, the latest month for which figures are available, were accrued on the basis of 6½ per cent of the payroll. After January 1, 1947, he continued, that tax will be increased to 8¾ per cent — a result of the Crosser act — amounting to an increase estimated at nearly $8,000,000 a month. Dr. Parmelee said that further increases in the cost of materials — which were not re-

flected in the costs of supplies charged out and used in July — will add at least $6,000,000 to monthly operating expenses in the future.

The A. A. R. spokesman reported that rail passenger traffic already has declined 30 per cent below war-time levels and is expected to drop another 30 per cent within the next year. He said this decrease would result in a decline of approximately $30,000,000 a month in net income next year, adding that the combination of smaller passenger revenues and heavier expenses would "far more than wipe out the net income reported for July and produce a large deficit in 1947."

"The essential fact" he observed in his prepared statement, "is that since 1939 both railroad wages and the prices of fuel and supplies which the railroads use have gone up more than 50 per cent. As applied to the traffic of this year, actual and estimated, the increase in operating costs will be more than $2,000,000,000 a year. Against such an increase, there was until July no increase in freight rates. Since July 1, there has been an interim and temporary increase which will produce about $300,000,000 a year in additional freight revenue."

Net Increase 19 Per Cent—Dr. Parmelee said that the railroads are not asking for a rate increase which will "meet and match" the entire increase of more than $2,000,000,000 in operating costs, but are asking for rates which, on the average of all classes of commodities, will represent an increase of approximately 19 per cent.

"As costs and rates stand now," he continued, "with the partial rate increase in effect and even with traffic breaking peacetime records, as we expect it to do in both 1946 and 1947, the railroads may be expected to earn a net income for 1946 of less than $30,000,000, while for 1947 they are estimated to lose, at present rates, more than $300,000,000. Even with full rates which the railroads are asking, anticipated net income in 1947 would be less than $250,000,000, which is substantially less than half the annual income the industry needs if it is to continue to provide the kind of transportation services required by the nation's economy.

"To serve the national economy, there must be railroads increasing in efficiency and improving in service. Such railroads cannot be had without continued investment of railroad money in better plant and equipment. The $13,000,000,000 which the railroads invested in the past 25 years have made possible better and more adequate service, sold at lower prices. The same sort of thing can be done again, with the incentive to investment which is provided by the chance to earn a reasonable return under adequate rates."

Referring to reports that railroads made such great profits during the war that adequate earnings are now no longer necessary, Dr. Parmelee said that although the roads handled their heaviest traffic, performed their greatest service and collected their largest revenues during the war, the total return earned by them during that period averaged less than 5 per cent per year. He added that the fixed charges paid for the use of capital were actually less in those years than they were "some 30 years ago," when "investment in railroads was little more than half what it is now, while cash dividends paid to stockholders averaged less than three per cent per year on capital stock outstanding."

Reserves Eroded—"In the first seven months of 1946, moreover, the railroads barely earned their fixed charges for the use of loan capital, with virtually no return for the investors in their stock," Dr. Parmelee testified. "Indeed during these months, the railroads have been forced to draw on their reserve to the extent of more than $300,000,000 to meet necessary expenses not adequately covered by their rates. The substantial fact is that railroad freight charges are badly out of line, both with railroad operating costs and with prices of commodities generally. Operating costs have gone up more than 50 per cent. Wholesale prices have gone up more than 60 per cent. Railroads are asking for an increase of only 19 per cent, although it would take an increase of twice that amount to restore the 1939 relationship between prices and railroad rates. When the whole picture is considered, it is clear that the railroads can do with no less than they are asking."

Dr. Parmelee also pointed out that seven of the larger Class I roads estimate net income deficits in 1947, even on the basis of the increase sought in Ex Parte No. 162. The total 1947 net income for the 30 larger roads, excluding carry-back tax credits, was estimated at $199,013,933, while a deficit of $244,062,180 was predicted if only the interim increase remains in effect. The New York Central, for example, estimated a 1947 deficit (based on the increase asked in the current proceedings) of $18,652,000; the Pennsylvania, $9,369,549 and the New York, New Haven & Hartford, $5,760,000.

Typical problems faced by the railroads were illustrated in the testimony of Walter S. Franklin, vice-president in charge of traffic of the Pennsylvania, who said that the Pennsylvania faces the most serious financial situation in its 100-year history due to the increased cost of labor and materials coupled with an inability to obtain higher freight rates.

Pennsylvania's Predicament — "The deficit of $26,977,000, after carry-back taxes credits, incurred by the Pennsylvania in the first seven months of this year is the worst showing that the railroad has ever made," he said. "A deficit in net income of $14,616,000, after carry-back tax credits, is estimated for the entire current year, even though substantial net earnings are anticipated for the balance of 1946."

Mr. Franklin said that the Pennsylvania

Pork and Patronage

"Four piqued purveyors of pork—Senators McKellar and Overton and Congressmen Mansfield and Whittington—are sounding the tocsin because the President dares postpone $300,000,000 of rivers and harbors and flood control work. He did it, they cry, 'without either constitutional or statutory authority . . . and in defiance of the will of Congress.' So they have called a national protest meeting in New Orleans on September 20.

"Who will attend? Beyond their straight sense, 'rivers and harbors' and 'flood control' mean financial federal patronage traded back and forth among members of Congress. So numbers of contractors, lawyers and real estate men will be there.

"The 'front' organizations will be present, including the Mississippi Valley Association. Members of Congress will be there, for the people who will attend this convention have plenty of time to beat the bushes for votes; they also have fees for retired Congressmen and for Congressmen's law partners. John H. Overton will be there in his dual role as Senator and the Mississippi Valley Flood Control Association's president. Finally, the Army Engineers will be on hand to 'answer questions.'

"For all its constitutional pretext, all this to-do is indignation without a cause. For, as we have said before, President Truman has every right to retard construction. This country is in an emergency. Inflationary pressure is high. Prices are high. Materials and labor are acutely short; shall they be used in public works or in housing? . . . .

"Behind the bare bones of the legislative catalog are millions of words of official surveys, relating how the brush should be cleared from the banks of this creek or that and how large tonnages of traffic will move on little streams which go nowhere in particular.

"The bill may or may not include anything quite so improvident as the abandoned 'navigation project' on the Osage river in Missouri, on which maintenance cost per ton-mile amounted to 350 times the average freight rate on railroads. But it does include a great deal of disjointed and scattering work which can be defended only on grounds that it is patronage for someone.

"Some rivers and harbors work makes sense; much of it is boondoggle. Little of it fits into a unified plan with a full public advantage at the end. None of it begins to touch the superbly economical planning that went into the Tennessee river improvement. In fact, much of it is complete waste, and it becomes worse than waste when it precludes well-conceived later improvements or runs up the cost of them.

"This newspaper has printed admissions from Army Engineers people that some of the past work has been worthless. Yet the Engineers still string along for more of the same, for administering this pork is a form of patronage to them. It provides one of their principal peacetime employments. Politics still infects engineering, and the public pays. . . ."

—From the St. Louis Post-Dispatch

has never before operated at a deficit for a full year, adding that "the gravity of the present railroad situation . . . cannot be corrected by management." He estimated that wage and payroll tax increases and advancing prices of materials will cost the Pennsylvania over $90,800,000 in 1946. At the same time, he predicted that freight and passenger traffic will be greater in 1947 than in any year prior to 1942, exceeding "by substantial margins" the peaks of 1923 and 1929.

"With this enormous volume, we should earn enough money to continue to retire railroad debt and build up our property," he continued, "but instead we are actually adding to our deferred maintenance and 'pinching pennies' wherever we can—a most deplorable situation. The ratio of operating expenses to revenue on the Pennsylvania will be very high and even if the full increase in freight rates is granted and present passanger fares continued in effect, a net income deficit of over $9,369,000 is estimated for 1947."

Another section of Dr. Parmelee's report disclosed that according to the estimates supplied by 30 large Class I roads for 1946, which reflected actual returns for the first seven manths and preliminary returns for August, they anticipate a decrease of 12.3 per cent in freight revenue under 1945; a decrease of 25.9 per cent in passenger revenues and a decrease of 15.3 per cent in total operating revenues. The 30 roads accounted in 1945 for 79.3 per cent of the revenue ton-miles, 85 per cent of the revenue passenger-miles, 78.9 per cent of the freight revenue, 85.1 per cent of the passenger revenue and 80.4 per cent of the total operating revenues of all Class I roads.

Dr. Parmelee said that if the commission grants the full increase sought, the 30 roads anticipate an increase in operating revenues in 1947, as compared to 1946, of 6.6 per cent and an increase of 1.8 per cent in operating expenses. He added that their net railway operating income, without carry-back tax credit adjustments, would be greater by $177,000,000 than in 1946 and their net income would exceed the 1946 figure by $175,000,000. He said that if the current rates are continued and no further increase is granted, hte total operating revenues of the 30 Class I roads in 1947 would fall by 3.1 per cent below those estimated for 1946. The witness noted that total operating expenses would be slightly greater than in 1946, and that the net railway operating income, before allowance for carry-back tax credits, would be $16,000,000, and the net after charges would be a deficit of $244,000,000.

Commission Estimates—Highlight of the opening-day session was the testimony of Spurgeon Bell, head transport economist of the I. C. C.'s Bureau of Transport Economics and Statistics, who was permitted to testify as a witness for the Southern Traffic League despite the objections to his appearance by Mr. Fort. Mr. Bell's remarks were confined chiefly to a study entitled, "Post-War Earnings of Class I Railroads," issued by the bureau in June. Mr. Bell prepared the introduction to the report.

Declaring that the railroads face an "extraordinary increase" in expenses next year as the result of the Crosser Act, Mr. Bell predicted that the new retirement taxes will amount to $89,000,000 in 1947 and might reach $91,000,000 in 1948 if expected larger payrolls develop. He estimated that the 6.5 per cent freight rate increase would result in added revenue of $195,000,000 during the last half of 1946 and that additional operating income during the same period would total $120,900,000, less $74,100,000 in federal taxes.

Among other witnesses, P. E. Blanchard, representing the Institute of American Meat Packers, said that shipments of packinghouse products and fresh meats "had paid more than their share of rail revenues," while L. O. Kimberly, representing the American Cotton Manufacturers Association; C. J. Harris, representing Oklahoma grain interests; G. P. Cochran, representing the Concrete Manufacturing Company, Birmingham, Ala.; E. J. Robinette, vice-president and traffic manager of the Acme Brick Company, Fort Worth, Tex., and J. A. O'Rourke, representing Florida citrus interests, each testified in opposition to the proposed increase.

In lieu of evidence, verified statements were offered in behalf of James Salisbury, Jr., an economist with the Rural Electrification Administration of the Department of Agriculture, who estimated that 3,373,000 tons of freight will result from the 1946, 1947 and 1948 rural electrification programs and that a further increase in freight rates will retard the efforts of that agency, and in behalf of Harold H. Abel, an economist with the Production and Marketing Administration of the Department of Agriculture, who reported that the proposed increase would result in "undesirable difficulties" for the consumers of fishery products. Other Department of Agriculture witnesses included Harold D. Johnson and R. V. H. Gilbert, also of the Production and Marketing Administration, who likewise opposed the proposed increase.

I. C. C. Requires Continuing Flow of Waybill Data

Arrangements whereby its Bureau of Transport Economics and Statistics will receive a continuing flow of railroad waybills and other material for its traffic movement studies have been set up by the Interstate Commerce Commission in a recent order which requires railroads, effective November 1, to file "an authentic copy of the front only of the audited waybills of all carload shipments, whose waybill serial numbers are '1' or end with '01'." The order also requires that specified additional information be filed with each waybill on a prescribed form.

The order, by the commission's Division 1, was dated September 6, and it bears a notation to the effect that its reporting requirements have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942. Bureau staff estimates indicate that the waybills called for will provide a one per cent sample of all carload waybills issued. They are to be forwarded, along with the supplemental statements, to the bureau "not less than once each calendar month."

The supplemental statement, which "shall be attached to and made a part of each waybill," will show such information as the waybill number and date; originating railroad interline code number; originating station accounting number; terminating railroad interline code number; terminating station accounting number; type of rate; whether the shipment was interstate or intrastate; whether it was all-rail; and whether it was import, export, ex-lake, lake cargo, intercoastal, or coastwise.

Argument Concluded in Ex Parte No. 163

(Continued from page 488)

Figures presented by Mr. Mooers disclosed that (1) increases in the prices of materials and supplies, office rents and drayage payable in 1946 will increase expenses at least $1,130,000 a year; (2) total estimated increased costs since 1942 amount to $63,413,230; (3) including the 18½ cents per hour wage increase, the average pay of R. E. A. employees per straight time hour has increased from 77.95 cents in 1939 to the present rate of 119.47 cents, an increase of over 50 per cent; (4) the average cost of handling per shipment in 1939 was 72 cents as compared with $1.35 for the first six months of 1946; (5) the so-called Crosser bill will increase the railroad retirement payroll taxes to be paid by R. E. A. in 1947 by approximately $6,000,000 and (6) the rates and charges in effect today reflect an increase of less than 15 per cent over the rates prescribed by the commission in 1922.

Turning to the sharp decrease in the trend of express privileges ratios, Mr. Mooers said that the June report shows domestic express revenues of $33,205,526 and express privileges payments of $8,737,085, or a ratio of express privileges to express-domestic of 26.31 per cent. A consolidation of the June figures with the January-May restated results shows revenue of $202,533,111, express privileges payments of $47,039,169, and an express priileges ratio of 23.23 per cent, as compared with 1945's 36.55 per cent and an average of 49.9 per cent in the 1923-1929 period.

Mr. Mooers said that the increased costs sought to be recovered in part by the proposed rate changes are exclusively R. E. A. costs and would apply uniformly throughout the country. He set the estimated additional yield to be derived from the proposed rate increases at $58,900,000, adding that "it is the judgment of the applicant that with the return of more normal conditions and in the light of current trends the annual volume of l.c.l. express shipments in the prospective year will approximate 200,000,000 shipments." In the calendar year 1945, 207,000,000 l.c.l. shipments were handled.

A Revenue Case—"The estimated increased revenue from the proposed rates, $58,900,000, if realized in full, would approximately offset only the increases in rates of pay . . . it would not compensate for the other increased costs . . . nor, of course, for the $6,000,000 in payroll taxes resulting from the Crosser bill," Mr. Mooers commented. "They will be less than maximum reasonable rates. This is a revenue case in which the applicant is seeking an immediate and interim adjustment of express rates to meet increases in operating costs consisting principally of increases in

the wages of its employees retroactive to the first of this year. These increases in costs are now being borne by the railroads through reductions in their compensation for carrying express traffic. The interim rate relief now sought will put this burden on the shipping public where it rightly belongs."

J. S. Burchmore, representing the National Industrial Traffic League, argued that the commission should deny the R. E. A.'s petition. He declared that "viewed as a rate case, the proposals could not be sanctioned, on the evidence of record, without repudiation of the conclusions and principles reflected in the previous express rate cases of the commission." He further noted that the I. C. C. does not exercise the authority of permitting a carrier temporarily to exact rates on a portion of its traffic which are unfair or unreasonable "simply as a temporary measure of overcoming inadequacy of all revenues."

Mr. Burchmore pointed out that the R. E. A. neither pays to the individual roads any direct charges or compensation for services or facilities which each road contributes toward the movement of express traffic, nor does it retain any portion of the net express revenues remaining after payment of the direct expenses of the R. E. A., which, he said, do not include any item for the railroad haulage of the goods. It did not appear to the N. I. T. L. counsel that the added revenues or total revenues which would result from granting the specific proposals of R. E. A. for temporary relief would be distributed among the railroads equitably or fairly in proportion to the services performed and facilities furnished by each road.

Objectors' Views—"The proposal for emergency relief presents a revenue case in which the commission is asked to approve the selection of certain traffic to bear the entire burden," he said. "It is not shown, as to a great volume of such selected traffic, that there is any greater increase of expense or heavier burden of increase costs than as to other express traffic exempted from this proposal. The increases are not uniform within the class of traffic selected to bear increases. The proposal would disrupt the structure and framework of the express rates developed by the carrier, approved and prescribed by the commission. The proposal is aimed against small traffic in particular, which constitutes the type and class of transportation business for which primarily the express companies were organized and for which the agency was authorized to function as pooling agency for the railroads."

M. W. Wells, representing the Growers and Shippers League of Florida, the Florida Citrus Commission and the Florida Express Fruit Shippers Association, stressed that "if increases are ultimately required, 'interim' increases ought not to be allowed." He said the R. E. A. should be required to operate on the same basis as the railroads—pending final decision on a permanent proposal and to receive only the emergency charges heretofore authorized for the respective services.

"If increases are finally found to be required," he said, "then the basis should be such as to reflect appropriate transportation differences affecting the size and weight of packages and the distances hauled, as well as whether or not pick-up and delivery services or both are furnished."

J. K. Knudson, counsel for the Secretary of Agriculture, said that the commission should make its findings as to the "recordable level" of express rates "on much the same rationale as you have and will apply in the general rate cases."

"Inasmuch as the railroads are the principal stockholders and owners of the express companies, this sort of an adjustment should be an equitable one," he remarked. "We trust the commission will, indeed, prescribe such adjustments as may be found necessary on a short interim basis and we hope that the plan under study will take the realistic approach stimulated by respect for air, motor carrier and parcel post competition by securing more business for the express companies by guaranteeing better service at lower rates."

Cab Signals Praised; Phones Could Have Done No More

Reporting on its investigation of a Pennsylvania accident wherein the supplemental protection provided by that road's cab-signal system "greatly reduced" the "disastrous consequences which otherwise would have resulted," the Interstate Commerce Commission also found that no additional warning could have been given in time over the trains' telephone communication equipment even if it had been in operative condition on all locomotives involved—which it was not. "The investigation," the report said, "disclosed that the use of this trainphone system to send a warning does not necessarily result in instantaneous response, and also that there is no way to be sure that approaching trains for which warnings are intended have heard those warnings, unless a reply is received."

The report by Commissioner Patterson was on a July 13 accident near Wall, Pa., where at 9 p.m., a westbound passenger train struck a car of a derailed eastbound freight with resultant injuries to 57 passengers, 7 railway-mail clerks, 2 Pullman employees, 23 dining-car employees, and 6 train-service employees. The scene of the accident (1.09 miles west of Wall) is 53.49 miles west of Harrisburg on the four-track Harrisburg-Altoona line of the P. R. R.'s Middle division, over which trains moving with the current of traffic are operated by automatic block signal and cab-signal systems.

"Trainphone" Installation—Also, the "trainphone" system of train communication was placed in service on this division on April 28. This system, as the report explained, is operated on the inductive two-channel principle, and equipment is provided for communication between employees at four wayside block stations and employees on trains, between employees at the front end and the rear end of freight trains, and between trains. At the time of the accident, 70 per cent of the locomotives and cabooses used in the territory, including the three engines of the two trains involved, were equipped with trainphone apparatus.

The trains were Extra 6760 East, an eastbound freight consisting of engine 6760 and 124 cars; and No. 29, the westbound "Broadway Limited," consisting of engines 669 and 3670 and 16 cars. The freight train was moving eastward on track No. 2 of the four-track line at a speed of about 35 m.p.h. (the limit being 50 m.p.h.) when the rear coupler of the sixteenth car dropped to the track, and the seventeenth to the forty-eighth cars, inclusive, were derailed, obstructing the four main tracks. "Less than one minute after the derailment," as the report put it, the forty-first car, obstructing track No. 4 on which No. 29 was proceeding westward, was struck by that train. Both engines of the passenger train were derailed, as were the first (mail) and the seventh to tenth cars (two sleeping cars, a lounge car and a dining car). The derailed cars remained upright, being "slightly damaged."

The last wayside signal passed by No. 29 was 1.26 miles east of the point of the accident, and the passenger train there got a "proceed" indication which was also displayed at the same time by its locomotives' cab signals. The train was then traveling at about 60 m.p.h., and when the first engine was about 4,000 ft. east of the point of the accident, its cab signal's indication changed from "proceed" to "proceed-at-restricted speed."

The engineer thereupon made a 20-lb. brake-pipe reduction, following through to move the brake valve to emergency position when the fireman shortly afterward called a warning upon noticing that the freight had become separated. The commission made this comment: "As a result of the change of cab-signal indications from proceed to proceed-at-restricted speed at the time when the track ahead became obstructed, the speed of No. 29 was reduced from about 60 m.p.h. to 20 m.p.h. before the collision occurred, and the disastrous consequences which otherwise would have resulted from this accident were thereby greatly reduced."

Prompt Flagging—The report indicated that, meanwhile, the crew of the derailed freight train proceeded promptly to observe the applicable flagging rules and protect all tracks. However, there was not sufficient time to flag No. 29; but a westbound freight train (Extra 6724 West) coming along a few minutes afterward on track No. 3 was stopped short of the derailed cars in response to flagging signals, the engineer having previously reduced speed when his cab signals, like those of the passenger train, changed from "proceed" to "proceed-at-restricted-speed."

As stated above, the three locomotives of the trains involved in the accident were equipped with "trainphone" equipment, that on the freight train's engine being in operative condition while that on the passenger train's two engines was inoperative. The engine of the westbound freight which was flagged to a stop short of the derailed cars was also equipped, and its apparatus was in operative condition. In leading up to its finding that the phone system could not have given an additional warning in time to avoid the accident, the report noted how the crews made every effort to make the most effective possible use of the system.

"The timetable instructions governing the operation of the trainphone system provide that an emergency calling signal of four successive tone signals be sounded," the

report said. "This signal notifies all trainphone stations within range that an emergency message is about to be sent. It is then necessary to state the nature of the emergency and the location. There is no immediate action required by employees receiving an emergency signal on the trainphone other than to listen for the emergency message. In this instance it appears that almost immediate advantage was taken of the trainphone to communicate with the wayside stations.

Emergency Calls—"As soon as the engineer of Extra 6760 East made certain that his fireman had started out to flag he made an attempt to call Port on the trainphone. When he started to use the trainphone the engineer of Extra 6724 West was just completing a call to Port in which he had told Port that he had been flagged, and that a freight train on track No. 2 appeared to be derailed. The engineer of Extra 6760 East tried to break in on Port, but received no answer. Then he called Lewis and made contact almost at once. Port was the first trainphone-equipped block station to the east. . . . Lewis was the first block station to the west and the nearest trainphone-equipped block station.

"The engineer of Extra 6760 East informed the operator at Lewis of the emergency brake application of his train, and that the front brakeman was making an inspection of the train. At this time No. 29 had passed the engine of Extra 6760 East, and the collision occurred immediately afterward. The engineer of Extra 6724, who had first made a brake application when the cab signals in his engine displayed a restrictive indication just before the engine cleared the interlocking limits at Wall and then made an emergency application when his fireman saw stop signals being given by the fireman of Extra 6760 East, called Port immediately after his train was stopped.

"From the statements of the crews of Extra 6760 East and Extra 6724 West as to any part that the trainphone system might have played toward preventing the collision of No. 29 with the derailed cars of Extra 6760 East, it is apparent that No. 29 was so close to the point of accident when the derailment occurred that there was not sufficient time in which to warn the engineers of No. 29, had the equipment on the engines of that train been in operative condition."

"Research" Exhumes B.I.R.'s Findings

(*Continued from page 489*)

discriminations against equity capital"; that unemployment taxes be assessed for the benefit of maritime employees; and that transportation by carriers for hire be relieved of the federal capital stock tax, the declared-value excess-profits tax, the tax on transportation of property, the tax on oil by pipe line, the tax on lubricating oil, and manufacturers' sales taxes on auto vehicles, parts, accessories, tires, and tubes.

Under the recommendation calling upon Congress to designate a "national system of interstate highways" the subcommittee would have uniform vehicle size and weight standards developed by a "panel of engineers appointed by the President from a list furnished by the Public Roads Administration and the state highway departments." Size and weight limitations lower than the uniform standards would be applied to through highways of "substandard" construction; and "priority in the allotment of federal funds would be given to the improvement of such substandard sections." The federal regulatory restrictions on motor and water carriers which the subcommittee would eliminate are those which the I. C. C. imposes in granting certificates and permits—such as territorial and commodity limitations. With respect to "small carriers operating no more than five vehicles or two vessels or barge tows," the subcommittee would have Congress consider the elimination of all certificate and permit requirements.

Introducing the foregoing recommendations, the report's foreword asserted that "transportation and freight rates have long presented baffling problems to the small businessman," since "adequate transportation service at the lowest possible cost, free from injurious competitive disadvantages, is an important, and frequently controlling, element in the success or failure of industrial enterprise." Congress' policy of "providing the country with adequate transportation on terms of equality to all", in the opinion of the subcommittee, "has fallen far short of realization."

"Peculiarly" Qualified—The foreword went on to note that no action has been taken on the B. I. R. reports; so the subcommittee, "anticipating that after the end of the war . . . transportation and freight rates would again become major problems," employed Mr. Childe to prepare a report on transportation, "particularly from the standpoint of small business." The subcommittee considered Mr. Childe to be "peculiarly qualified" for this task because of his service as a member of B. I. R. and his "many years of prior experience" as a practitioner before the I. C. C. and as "representative and official of regional and national shippers' and public organizations."

The Childe report was released "with a view to focusing public attention on the matters discussed, in the hope that comments and criticisms elicited thereon will be of value when transportation legislation again comes before Congress for consideration." Generally, Mr. Childe's report is a series of discussions in support of the recommendations made by the committee. It is sprinkled with criticisms of the I. C. C., especially its activities in the field of rate regulation.

The commission's record of accomplishment as a rate regulator is called a "meager and unsatisfactory one," which "must be set down as falling far short of success." In the pending class rate and classification proceedings—Nos. 28300 and 28310—the commission "neither established nor ordered an equalization of freight rates," Mr. Childe said. He calculated that 90 per cent of the total traffic of the country is specifically excluded from the commission's findings. Moreover, he complains that "on the average, the carload class rates prescribed by the commission are more than twice as high as the 1939 cost, including 4 per cent return on investment, of performing the service by railroad." Meanwhile, "the average cost of less-than-carload transportation by railroad is at least double the average rate level prescribed in the commission's uniform scale."

Advises the I. C. C.—The commission is chided for having let the Hoch-Smith resolution instructing it to make a general investigation of the rate structure become "a dead letter, although it still stands unrepealed in the statutes." With respect to the Transportation Act of 1940's direction that the commission institute a general rate investigation, Mr. Childe said "no action has been taken," although he did concede that the commission considers the No. 28300 class rate investigation (instituted in 1939) to be "a partial compliance." Here Mr. Childe added that "the inequalities of commodity rates and exceptions to the classification are even more widespread than those of the class rate structure."

In support of the recommendation calling for creation of a federal transportation authority, Mr. Childe pointed out that the I. C. C. was heir to the basic data gathered by B. I. R.; but the commission has used these data only "to a limited extent." The former B. I. R. member is not critical of the commission on that score, however, for it helps his case for the new authority to follow through with the observation that "the commission has neither the organization nor the money for extensive work of this kind." As to the B. I. R. recommendation (now repeated here) that the commission be directed to establish a uniform classification and uniform class rates within specified time limits, Mr. Childe said that its "wisdom" appears to have been demonstrated "by the bogging down of the commission's class rate investigation."

Also, Mr. Childe pointed out that the commission failed to follow B. I. R.'s advice on the matter of reorganizing itself. "The board," he said, "recommended that the Interstate Commerce Commission be reorganized in the interest of greater efficiency. The board urged that the commission itself thoroughly study its organization and procedures, with a view to instituting changes and improvements. . . . The commission has not acted upon these recommendations or indicated an intention of reorganizing." The former B. I. R. member then recalled that the commission's 1939 action which assigned added responsibilities to its chairman and lengthened the chairman's term to three years "did not remain long in effect," the policy of annual rotation of the chairmanship having been reestablished in 1942.

I. C. C. Serves Signaling Order on Cotton Belt

Acting upon consideration of the St. Louis Southwestern's return to a show-cause order wherein it agreed to make the installation, the Interstate Commerce Commission has issued an order requiring that a centralized traffic control system be installed by January 1, 1948, on the line between Lewisville, Ark., and Gertrude, with power-controlled switches at McKinney, Ark. The commission's order, dated September 13, says that the required installation, along with the existing automatic block signal system in operation between Gertrude and Texarkana Yard, Tex., will provide the "adequate block signal system" contemplated in the show-cause order.

The latter, dated February 28, was issued as a result of the commission's investigation of a January 6 collision on the line near Garland City, Ark. (see *Railway Age* of March 9, page 521).

Car Service Orders

Service Order No. 234 which reduces to three days the free time on l. c. l. freight held at border points for export to Mexico will continue in effect until January 20, 1947, under the provisions of Amendment No. 2, issued this week by the commission.

Service Order 573-A vacated, as of September 14, Service Order 573 which had prohibited railroads serving the Twin Cities from accepting or delivering cars consigned to L. J. Cohen, Universal Machinery, Inc., or Consolidated Machine Company at any point within the switching limits of Minneapolis, Minn., or St. Paul

Navy Department Cites Pelley, Johnson for War Service

J. J. Pelley, president of the Association of American Railroads, and J. Monroe Johnson, director of the Office of Defense Transportation, were presented "Certificates of Appreciation" by the Navy Department on September 12 "in grateful recognition of meritorious personal service during World War II." The presentation was made by Vice Admiral Louis E. Denfeld, United States Navy, Chief of Naval Personnel, in behalf of the Bureau of Naval Personnel.

Admiral Denfeld commented that Mr. Pelley's and Colonel Johnson's "brilliant handling" of railroad transportation was "to no little degree" responsible for the successful overland movement of millions of Naval personnel during the war and the completion of the Navy's huge demobilization program.

"The complexity of the problems resolved by them becomes apparent when it is realized that as many as 25,000 Naval personnel were moved across the country in a single day, and without detriment to critical civilian transportation," he said. "As president of the Association of American Railroads, Mr. Pelley turned over his full resources to Defense Transportation and worked untiringly to revise schedules to meet the demands made upon them." Of the O. D. T. director, Admiral Denfeld said he had often heard his transportation experts remark: "Just tell Colonel Johnson how many men you want to move, from where to where, and when—and then chalk it up as done."

New I. W. C. President

Albert C. Ingersoll, Jr., has been appointed by Secretary of Commerce Wallace to the presidency of the government-owned Inland Waterways Corporation. Since June 14, Mr. Ingersoll has been the corporation's vice-president in charge of operations and acting president. South Trimble, Jr., continues as chairman of the I. W. C. advisory board.

The Commerce Department announcement of Mr. Ingersoll's appointment said that the appointee has been making a survey "of traffic conditions above Kansas City with a view to extending the corporation's barge service further north on the Missouri river." It added that an extension "to provide better service for shippers in the Missouri Valley" has been recommended to Secretary Wallace by the advisory board.

Three Negro Women Complain Against Segregation

Three negro women, who were shifted to a "segregate car" in compliance with the Virginia law when the New York-Atlanta, Ga., train on which they were traveling entered that state, have filed with the Interstate Commerce Commission virtually identical complaints against the Southern. The complainants are Vashti Brown and Muriel Holcombe of Brooklyn, N. Y., and Lillian Falls of Chicago.

They assert that they purchased New York-Atlanta tickets, which carried reserved-seat accommodations, at Pennsylvania Station, New York. They left that city on January 7 and "rode comfortably" in the seat first assigned to them until their tickets were checked between Washington, D. C., and Charlottesville, Va. Then the Southern's train conductor, passenger agent, and stewardess explained the Virginia segregation law; but the complainants at first refused to move to the "segregate car," on the ground, as the complaints put it, that they were "interstate passengers on an interstate journey and as such were not subject to the requirements of the Virginia law."

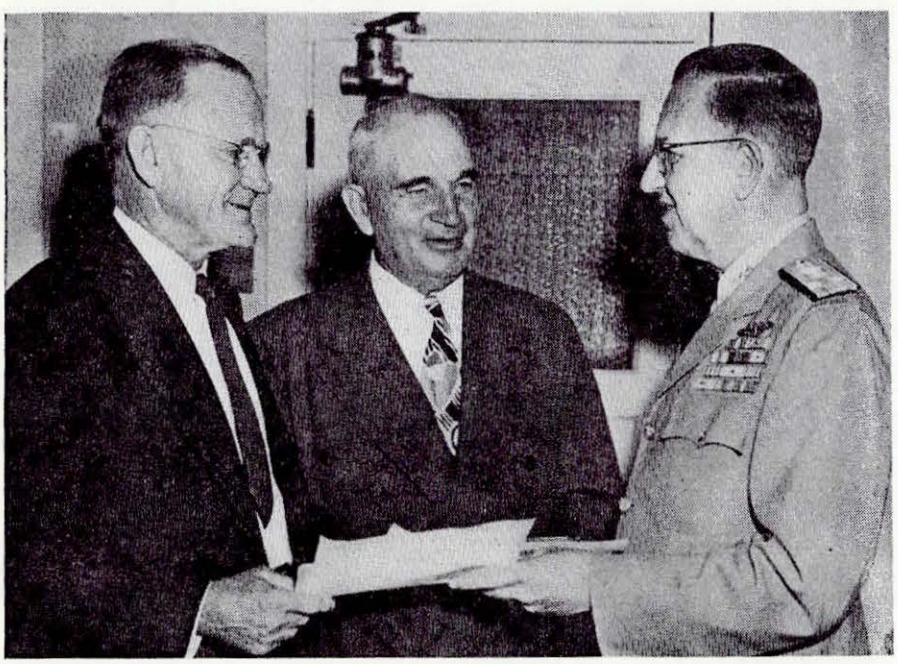
Under "threat of eviction," however, they did move to the "Jim Crow" car which was described as "far inferior" to the car in which they had been riding. The effect of the "unpleasant experience" on all three complainants was identical—they became "ill" and were "forced to receive treatment from a physician" upon arrival at Atlanta. The complaints ask the commission to order the Southern to cease and desist from such alleged prejudice and discrimination. In addition to various sections of the Interstate Commerce Act, they rely on Constitutional citation, including the commerce clause.

The latter approach has already proved successful in an attack on Virginia's "Jim Crow" bus law, the United States Supreme Court having recently struck down that statute as an "undue burden" on interstate commerce (see *Railway Age* of June 8, page 1153). While the segregation of railroad passengers was not specifically involved in that case, Justice Burton's dissent indicated that a precedent had perhaps been set when it pointed out that the 1930 bus law being voided by the majority "conforms to the policy adopted by Virginia as to steamboats (1900), electric or street cars and railroads (1902-1904)."

New Issue of I. C. C. Rules on Finance Applications

The Interstate Commerce Commission on September 10 made public in printed form the text of an August 9 order wherein Division 4 set forth the commission's rules and regulations governing applications under sections 20a and 214 of the Interstate Commerce Act for authority to issue securities and assume obligation or liability in respect of the securities of others and the filing of certificates of notification and reports relating to such issue and assumption. Without expanding present requirements with respect to railroad applications, the order brings the rules and regulations together in one place and sets up uniform procedures for all carriers to which the sections apply.

Meanwhile, there is at least one prospect of relief for the railroads on the matter of filing the completion reports heretofore required with finance applications. This is indicated in Appendix A which shows the required form of reports on proposed expenditures, expenditures made but not yet capitalized and retirements pertinent to the finance application being made. Among the accompanying instructions is one which reads as follows: "There shall be attached to the original of this report, arranged in numerical order, one copy of each A. F. E.



News Department continued on next left-hand page

Motive Power Titans

...FOR WESTERN OHIO

THE tonnage that must be moved on the Detroit, Toledo and Ironton lines demands motive power capable of maintaining fast schedules with tremendous loads.

For this service the D. T. & I. has steadily increased its fleet of Lima-built steam locomotives, so that today eighteen of these modern Titans are speeding the heavy traffic on which so many of Western Ohio industries depend.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

(authority for expenditure) covering all expenditures proposed or in progress. For finished projects attach in numerical order one copy of each completion report under Valuation Order 3, except that no completion reports will be required for projects fully reported on B. V. form 588, checked by the Bureau of Valuation and all adjustments fully accepted by the applicant."

The order, including appendices, is a document of 22 pages. It supersedes "the order of February 19, 1927 (49 C. F. R. 56.1-56.10) and the orders of Division 5 dated January 10, 1946 (49 C. F. R. 7.22-7.23) and August 3, 1936 (1 F. R. 1037-1038, 49 C. F. R. 7.28, 7.29, 7.30)."

Pullman's New Refund Rules Are Reducing Cancellations

A 32 per cent reduction in all cancellations of ticketed sleeping car space was reported during the first month's operation of the Pullman Company's new refund tariff, E. P. Burke, Pullman passenger traffic manager, testified at September 17's Washington, D. C., hearing in connection with the Interstate Commerce Commission investigation of the new regulations. The proceeding is docketed as No. 29590 and the hearing was before Examiner Berry.

The new regulations covering redemption of unused sleeping-car tickets were inaugurated August 1, the commission having allowed the tariff to become effective in advance of its investigation of the matter. The tariff provides that full refunds may be made by ticket agents only if the space covered by a ticket is released the day before departure of the train or earlier. If the space is released on the day of departure or later, or not released at any time, the amount of refund depends upon the resale of the space, and the unused ticket must be sent to Pullman headquarters in Chicago. In the former tariff, ticket agents were permited to refund amounts paid where reservations were cancelled before train departure, but no refund was made if space was not cancelled.

Mr. Burke testified that during 1945, when the former tariff was in effect, 3,524,650 tickets were purchased but not used —an average of one ticket returned for eight persons carried in Pullman cars. The day-of-departure release of space, which resulted in many trains reported to be sold out departing with vacant accommodations, has been slashed 65 to 70 per cent as a result of the new regulations, the witness added. He went on to explain that this makes possible a more orderly sale of space and heavier loading of cars. In the latter connection, Mr. Burke presented figures obtained in studies of several "name" trains with acute space problems, showing reductions in last-day cancellations during August ranging from 40 per cent to 92.6 per cent.

In addition to reducing last-day cancellations, Mr. Burke said that a number of railroad passenger traffic officers had advised Pullman that they can see sharp reductions in their waiting lists, improvements in their reservation bureaus, and opportunities for better car loading. Explaining why Pullman saw a need for the new tariff, the witness said that during the war "many persons, connected directly or indirectly with the war effort who had to travel, adopted the practice for their own protection of buying up space far in advance to cover any trip they believed they would have to make." Mr. Burke pointed out that this was done not only by individuals, but by large industrial concerns as well.

"Under the tariff rules then in effect," he went on, "such tickets could be held without any risk of loss until train time. . . . During the war, this condition was accepted by many travelers as inevitable, but with hostilities ended the traveling public ceased to be so tolerant." Since the new tariff became effective, "early reports indicate that travelers are now more conservative in the amount of accommodations they buy until their plans have matured to a point where they are reasonably certain they will travel, and are giving attention to cancellations in time."

"Flying Post Office" Will Be Demonstrated September 25

The Post Office Department has announced that the first "Flying Post Office" will make a demonstration flight between

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 129 reports (Form IBS) representing 133 steam railways*
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways — For the month of May 1946	For the month of May 1945	For the five months of 1946	For the five months of 1945
1. Net railway operating income	*$4,779,573	$103,633,696	$114,603,472	$448,579,002
2. Other income	13,272,247	15,624,108	66,707,069	73,659,163
3. Total income	8,492,674	119,257,804	181,310,541	522,238,165
4. Miscellaneous deductions from income	1,503,640	2,626,433	11,116,462	12,689,886
5. Income available for fixed charges	6,989,034	116,631,371	170,194,079	509,548,279
6. Fixed charges:				
6-01. Rent for leased roads and equipment	9,905,340	12,435,908	48,050,775	61,799,156
6-02. Interest deductions[1]	31,029,438	31,654,671	149,724,669	156,997,349
6-03. Other deductions	128,074	122,955	599,025	551,412
6-04. Total fixed charges	41,062,852	44,213,534	198,374,469	219,347,917
7. Income after fixed charges	*34,073,818	72,417,837	*28,180,390	290,200,362
8. Contngent charges	2,999,844	3,723,702	14,717,131	16,428,008
9. Net income[2]	*37,073,662	68,694,135	*42,897,521	273,772,354
10. Depreciation (Way and structures and Equipment)	28,685,529	27,745,689	142,219,223	137,878,937
11. Amortization of defense projects	757,614	19,906,733	3,096,380	97,526,394
12. Federal income taxes	*7,963,249	109,910,090	9,636,264	481,568,938
13. Dividend appropriations:				
13-01. On common stock	22,186,935	41,338,091	67,050,641	70,185,782
13-02. On preferred stock	4,027,041	9,580,755	19,601,181	18,181,346
Ratio of income to fixed charges (Item 5 ÷ 6—04)	0.17	2.64	0.86	2.32

Selected Asset and Liability Items	All Class I Railways — Balance at end of May 1946	Balance at end of May 1945
17. Expenditures (gross) for additions and betterments—Road	$83,496,649	$81,332,995
18. Expenditures (gross) for additions and betterments—Equipment	91,248,967	110,397,847
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	588,928,154	563,951,368
20. Other unadjusted debits	174,525,985	248,610,196
21. Cash	1,044,482,125	1,242,795,643
22. Temporary cash investments	1,367,556,296	1,812,006,393
23. Special deposits	199,630,432	292,232,307
24. Loans and bills receivable	476,239	378,563
25. Traffic and car-service balances—Dr.	35,893,753	59,040,540
26. Net balance receivable from agents and conductors	88,829,524	140,375,102
27. Miscellaneous accounts receivable	373,655,947	614,537,340
28. Materials and supplies	608,760,176	605,825,835
29. Interest and dividends receivable	29,246,315	40,286,065
30. Accrued accounts receivable	194,526,575	285,241,177
31. Other current assets	32,422,845	56,130,653
32. Total current assets (items 21 to 31)	3,975,480,227	5,148,849,618
40. Funded debt maturing within 6 months[3]	127,777,165	131,597,820
41. Loans and bills payable	10,854,058	3,985,000
42. Traffic and car-service balances—Cr.	104,750,451	176,569,853
43. Audited accounts and wages payable	516,861,216	491,260,589
44. Miscellaneous accounts payable	166,235,119	206,776,637
45. Interest matured unpaid	50,551,856	100,501,994
46. Dividends matured unpaid	8,779,878	8,313,990
47. Unmatured interest accrued	59,158,868	61,845,862
48. Unmatured dividends declared	39,703,490	60,468,212
49. Accrued accounts payable	225,870,864	221,369,733
50. Taxes accrued	671,719,332	1,799,669,744
51. Other current liabilities	148,824,901	149,282,669
52. Total current liabilities (items 41 to 51)	2,003,310,033	3,280,044,283
53. Analysis of taxes accrued:		
53-01. U. S. Government taxes	542,183,567	1,655,524,979
53-02. Other than U. G. Government taxes	129,535,765	144,144,765
54. Other unadjusted credits	396,659,857	560,544,038

* Decrease or deficit.

[1] Represents accruals, including the amount in default.

[2] After deductions of the following amounts to create reserves for land grant deductions in dispute: May 1946, $241,550; May 1945, $3,629,093; 5 months of 1946, $1,129,356; 5 months of 1945, $17,356,542.

[3] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

News Department continued on next left-hand page

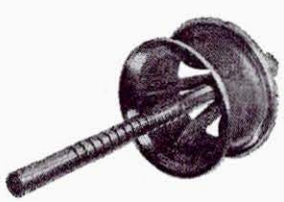
Make the most of...

Locomotive modernization programs

● It is especially important, in connection with locomotive modernization programs, to weigh carefully the possibilities of the Franklin System of Steam Distribution.

There are no other changes or combinations of changes which you can make in existing motive power that will produce such fundamental improvements in locomotive performance. Without increasing fuel consumption or boiler capacity, you can increase horsepower at normal operating speeds by 20% to 40%. When this greater power is not being utilized, you will achieve fuel savings ranging from 20% to 40%.

With the Franklin System of Steam Distribution, piston valves are replaced with fast-acting, lightweight poppet valves. This permits the use of larger steam passages. Separate control of intake and exhaust valve events permits late release and suitable compression even at shortest cutoffs. Efficiency of transforming steam into horsepower hours is materially improved.



We would like to show you how this can be accomplished — practically — with your locomotives, either freight or passenger.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

Washington, D. C., Dayton, Ohio, and Chicago, on September 25. The plane, a Trans World Airlines cargo liner, is being specially equipped for the occasion and will operate on the company's scheduled Chicago flight which leaves Washington at 2:20 p.m. Postal personnel will be on the plane to work the mail en route.

This flight, according to Gael Sullivan, second assistant postmaster general, will give postal transport experts an opportunity to watch at first hand the distribution and handling of mail in the air. He added that it will also assist the Postal Service in its study of the practicability of utilizing this medium as a part of its transportation scheme.

The plane will be open to public inspection at the Washington National Airport beginning at 10:30 a.m. on September 25, coincident with the first-day sale of the new 5-cent air mail stamp.

Materials and Prices

The following is a digest of orders, notices and information have been issued by the Office of price Administration, the Civilian Production Authority and Solid Fuels Administration, since August 26 and which are of interest to railways:

Bituminous Coals—Because of the short supply of high grade bituminous coal produced in districts 7 and 8 (Southern West Virginia, Virginia, Eastern Kentucky and Northern Tennessee), the S. F. A., in a directive issued to lake receivers, has restricted commercial dock operators in the current navigation season to receiving only tonnage needed to supply retail dealers with 90 per cent of the prepared domestic sizes supplied them during the last coal year, April 1, 1945, to March 31, 1946, and their industrial customers with 100 per cent of the tonnage each received during the period from May 1, 1945, to April 30, 1946.

Construction—C. P. A. has given builders detailed instructions on form CPA-4423 applications for authorization to do nonhousing construction or repair work restricted under veterans housing program Order 1, in Direction 2 to Order VHP-1.

Critical Building Materials—C. P. A. has officially instructed its 71 construction field offices to "conserve critical building materials to the utmost" and outlined how the screening procedure must be tightened, with every effort made to reduce the over-all national weekly quota of nonhousing construction approvals by 25 to 30 per cent.

Iron Castings and Steel—Priorities assistance for iron castings and steel has been granted for fourth quarter use to manufacturers of certain specified wiring devices, C. P. A. said. The action results from an interpretation of Direction 18 to PR 28.

Jute—To permit the War Assets Administration to liquidate its remaining surplus of raw jute in one sale, C. P. A. has revoked Direction 21 to Priorities Regulation 13, issued July 18 to reserve 5,000,000 lb. of raw jute for sale to manufacturers who might otherwise have been forced to shut down.

Pig Iron—To assure sustained production of housing products and railroad brakeshoes, the certification plan which aided manufacturers of these products in obtaining pig iron in the third quarter will be continued the rest of the year, C. P. A. orders in amendment to Direction 13 to Steel Preference Order M-21, effective Sept. 30.

Tin—C. P. A. has freed an additional 15 per cent of tin-mill production, formerly channeled to the manufacture of cans and closures, for perishable foods and a few other urgent items, by amendment of Direction 9 to Steel Preference Order M-21 effective Sept. 30.

Prices

Brass and Bronze Ingot—Brass and bronze ingot producers have been granted ceiling price increases to cover their loss in melting scrap, resulting from increased scrap priced after June 3, O. P. A. said. Amendment 6 to MPR 202 is effective Aug. 27.

Decontrol—Suspension from price control of 21 more construction and industrial materials not considered essential to the veterans' emergency housing program and affecting annual production of $110,000,000 of materials, has been authorized in Amendment 49 to Supplementary O. P. A. Order 129, effective Sept. 4.

Hemp and Flax—American line hemp, hemp tow, flax line fiber and flaw tow have been exempted from price control and a number of relatively unimportant leathers suspended, O. P. A. said. Amendment 49 to Supplementary Order No. 126 is effective Aug. 25.

Low Pressure Valves and Fittings—Interim price increases which were granted for certain low pressure valves and fittings on March 26, will continue indefinitely, O. P. A. has announced in Amendment 27 to Order 1 under Section 22 of MPR 591, effective Aug. 31.

Lumber—Ceiling price increases for western pine shop lumber (ponderosa, Idaho and sugar pines) and douglas fir lumber on direct mill shipments to millwork, manufacturers are authorized to channel more lumber into doors, sash, frames and other items of millwork, under amendments effective Sept. 4.

Mechanical Jacks—Resellers of heavy duty mechanical jacks have been granted a percentage pass-through of the March 27 increase in manufacturers' maximum prices to replace the dollar-and-cent pass-on previously permitted, O. P. A. has announced in Amendment 1 to Order No. 593 under revised maximum price Regulation 136, effective Aug. 30.

Pine Lumber—Maximum delivered prices of white and Norway pine lumber imported from the Ottawa Valley of Canada have been increased 10 per cent to maintain relationship with Canadian ceilings and 85 cents a 1,000 ft. to cover higher transportation costs, in Amendment 3 to Third Revised O. P. A. Regulation 219, effective Sept. 10.

Soil Pipe—Amendments to Premium Payments Regulation 8 are being drawn to aid producers of cast iron soil pipe by the housing expediter. These will provide financial relief to pipe producers who must buy pig iron from companies which may sell at prices higher than prevailing, and will adjust quotas downward in extreme hardship cases. Both amendments will be retroactive to Sept. 1.

Turpentine — Acting Secretary of Agriculture Charles F. Brannan has recommended formally to O. P. A. that the maximum price for gum turpentine for producers' sales in bulk be increased from 83½ cents to $1.05 a gallon, with corresponding increases at other levels of distribution, to encourage production of gum turpentine.

Waste — Dealers in waste rags, ropes and strings have been allowed increases in maximum charges for loading and delivery services to cover higher costs for labor and materials in Amendment 3 to O. P. A. Regulation 47, effective Sept. 7.

Equipment and Supplies

LOCOMOTIVES

The Texas & Pacific has authorized the purchase of seven Diesel-electric switchers, to cost $625,000. Six will be operated in the road's yards at Dallas, Tex., and one will go to Marshall.

FREIGHT CARS

The Union Pacific is inquiring for 1,000 70-ton ballast cars.

The Lehigh Valley is inquiring for 500 50-ton box cars and 100 70-ton drop-end gondola cars.

The Atchison, Topeka & Santa Fe is inquiring for an additional 250 50-ton box cars.

The Kansas City Southern has ordered 100 70-ton pulp-wood cars from the American Car & Foundry Co. The inquiry for this equipment was reported in the *Railway Age* for June 1, page 1120.

The Missouri Pacific is inquiring for 18 70-ton container cars to be placed in operation on the Missouri-Illinois, a subsidiary. The cars, to be constructed with open steel framing, will have a capacity of 12 containers for transportation of lime and dolomite.

The Baltimore & Ohio has placed orders for 2,000 steel hopper cars, allocating 1,000 of 50 tons' capacity to the Bethlehem Steel Company, 500 of 70 tons' capacity to the Pressed Steel Car Company, and 500 of 70 tons' capacity to the Pullman-Standard Car Manufacturing Company. Inquiry for this equipment was reported in *Railway Age* of September 7.

PASSENGER CARS

The Illinois Terminal has ordered 3 baggage-coach cars, 2 coaches and 3 parlor-dining cars from the St. Louis Car Company. The cars will be streamlined and of aluminum construction.

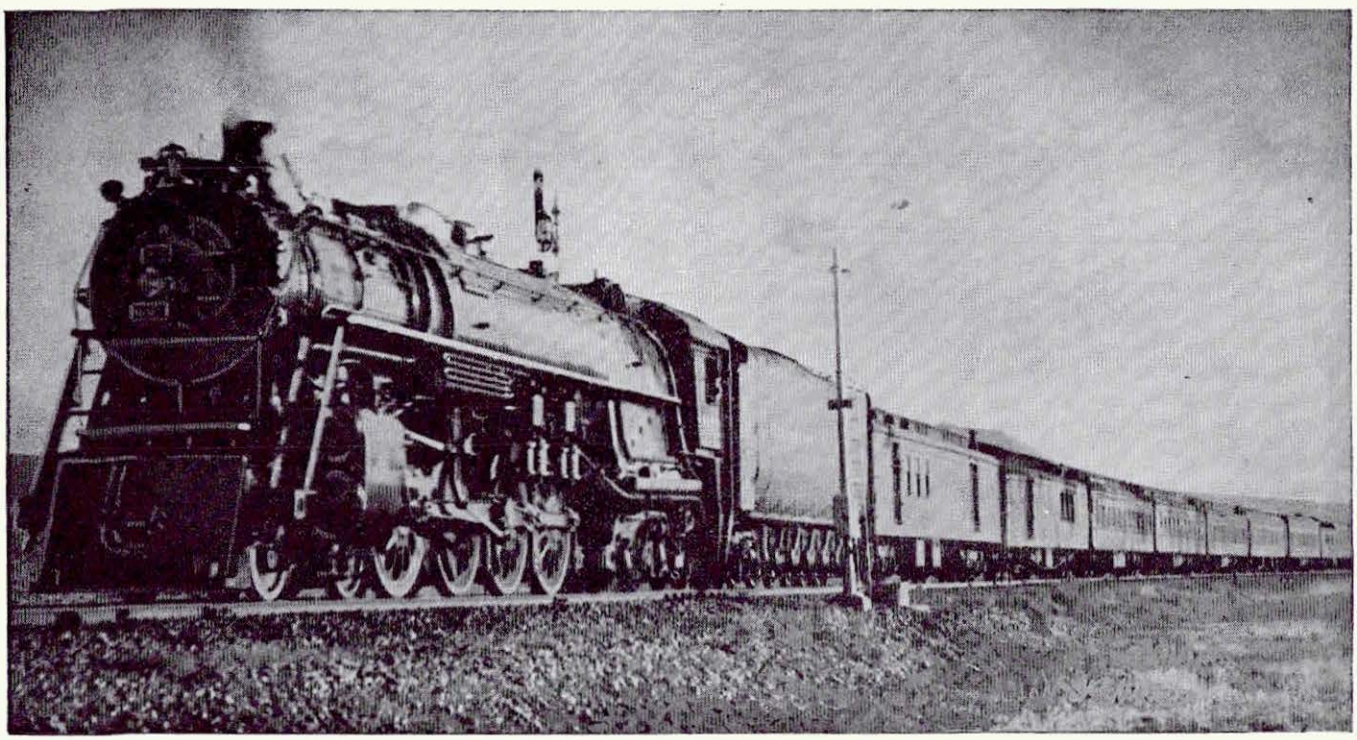
SIGNALING

The Western Pacific has ordered from the Union Switch & Signal Co. material for the installation of an automatic block signal system between Oakland, Cal., and Stockton, totaling 92 miles of single track. A style C control machine will be installed at Sacramento, 48 miles from Stockton, and will control the 83-mile territory between Stockton yard and Oakland. A like machine will also be installed at Weber avenue in Stockton, and control the territory between Stocktton yard and Hamer Lane, nine miles of single track through Stockton yard. The territory between Stockton yard and Oakland will be controlled by carrier, and the system in general includes reversible coded track circuits, with individual carrier units used to transmit track indications of some railroad

News Department continued on next left-hand page

To keep a locomotive at

full capacity

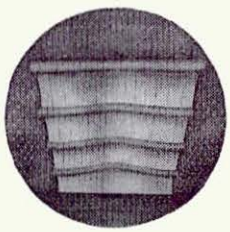


To secure all the power a locomotive is capable of producing — and to get the utmost value from every ton of coal — a complete brick arch in the fire box should always be maintained.

The heavier the train and the higher the speed, the greater are the gains from keeping the arch complete.

Whatever the type of locomotive, a Security Sectional Arch will give long service with low maintenance costs.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists



AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

crossings to the control machine. The order includes the coding and carrier equipment, style H-2 searchlight signals, relays, rectifiers, transformers, and housings, together with the control machine and coding equipment. The road's construction forces will handle the installation.

Supply Trade

Dr. Jerome C. Hunsaker, of Boston, Mass., has been elected a director of the **Goodyear Tire & Rubber Co.**, succeeding **General R. E. Wood.**

Clarence H. Collier, Jr., has been appointed manager of the industrial lift truck eastern division of the **Hyster Company**, with headquarters in Peoria, Ill.

Cleve H. Pomeroy, former vice-president and secretary-treasurer of the **National Malleable & Steel Castings Co.**, has been elected president, to succeed **Charles H. McCrea**, whose death was reported in the *Railway Age* of August 31.

Clyde O. DeLong has been appointed merchandise manager of the industrial products sales division of the **B. F. Goodrich Company**, to succeed **Fred A. Lang**, recently appointed general manager of the newly created shoe products sales division.

Edward R. Yonkers, former assistant district manager, has been appointed Wolverine district manager for the **Graybar Electric Company**, with headquarters in Detroit, Mich., to succeed **A. R. Maynard**, who will retire on November 1.

T. L. Kishbaugh has become associated with **Joseph T. Ryerson & Son**, with headquarters at the company's new Los Angeles, Calif., plant. Mr. Kishbaugh was formerly vice-president and merchandising manager of the Earle M. Jorgensen Company, Los Angeles.

The **American Brake Shoe Company** has announced that construction has been started on a new plant in Niles, Ohio, for the manufacture of railroad journal bearings. The new plant, scheduled for completion in six months, will consist of a foundry and machine shop building, and will be operated by the National Bearing division.

Wendell Richards, district sales representative of **R. G. Le Tourneau, Inc.**, at Pittsburgh, Pa., Philadelphia, and Baltimore, Md., has been promoted to market research manager. **O. A. Williams**, district sales representative in Ohio, Indiana, and Michigan, has been appointed eastern sales manager, succeeding **Harry Conn**, who has resigned. **C. F. Zimmerman**, general service manager, succeeds Mr. Williams as district sales representative. **Cloyd Richards**, assistant service manager, has been appointed general service manager, succeeding Mr. Zimmerman. **H. R. McQuarrie**, eastern credit manager, has been appointed assistant to the domestic sales manager, a newly-created position.

L. F. Erskine has been appointed district sales manager for the **Union Railway Equipment Company**, with headquarters at Minneapolis, Minn. The **Africa General Corporation** at Johannesburg, South Africa, has been made exclusive distributor of the company's products in the Union of South Africa and North and South Rhodesia.

William A. Hart, railroad representative of the **Buda Company**, at New York, has been transferred to St. Paul, Minn., succeeding **Harry A. Wolfe**, whose promotion to district manager at Chicago is reported elsewhere in these columns. Mr. Hart was born at Battle Creek, Mich., and was graduated from Purdue University in 1940 with a B. S. degree in mechanical engineering. In the same year he joined the Buda sales department at Harvey, Ill. Early in 1941 he was transferred to New York to represent the railroad division in export and industrial sales through distributors, and served in that capacity until he entered the service of the armed forces early in 1942. In November, 1945, he returned to the Buda Company and was sent to New York to represent the industrial division in the northeastern territory, where he served until his recent transfer to St. Paul.

L. A. Hester has been appointed manager of the Middle Atlantic district transportation division of the **Westinghouse Electric Corporation**, with headquarters in Philadelphia, Pa., to succeed **R. F. Moon**, who has been named special representative. Mr. Hester was graduated from Virginia Polytechnic Institute at Blacksburg, Va., in 1923, with a bachelor of science degree in electrical engineering. In the same year he joined Westinghouse at East Pittsburgh, Pa., and since he has served in various capacities with the transportation branch. Mr. Moon was graduated from Rutgers University at New Brunswick, N. J., in 1904, with a bachelor of science degree in electrical engineering, and began his career as an apprentice at the East Pittsburgh works, after which he entered the transportation sales division at Philadelphia.

H. K. Williams, vice-president of the **Safety Car Heating & Lighting Company**, has retired after 40 years' service with the company. Other retirements effective September 1, under the company's retirement plan, are as follows: **George H. Scott**, manager, Chicago district office; **A. B. Mills**, manager, New England district office, and **J. S. Henry**, manager, New York district office. The retirements also were announced of **George E. Hulse**, chief engineer; **William Stewart**, treasurer and assistant secretary; **L. Schepmoes**, manager, fixture department; **A. C. Van Nest**, chief supervisor; **J. C. Montgomery**, superintendent, and **D. G. Matthesen**, accounting department, all of the New Haven, Conn., plant.

The following appointments have been announced: **C. A. Pinyard**, manager, and **E. K. Goldschmidt**, assistant manager, Chicago district office; **Wade M. Wilkes**, representative in charge, New England district; **W. P. Shotwell**, representative in charge, San Francisco district; **Pearce Whetstone**, executive office, New York; **Leonard Pierson**, assistant to vice-president C. W. Dunlop; **E. C. Mattern**, works manager; **L. Von Ohlsen**, electrical engineer; **J. D. Strobell**, air conditioning engineer; **J. J. Kennedy**, field engineer; **Wm. S. Cable**, employment and labor relations manager; **George Matthesen**, controller; **Joseph H. Riley**, chief accountant; **J. H. Michaeli**, treasurer and secretary, and **James T. Cullen**, assistant treasurer and assistant secretary.

S. S. Bruce has been appointed manager of the newly established traffic and transportation department of **Koppers Company.** Mr. Bruce, formerly traffic manager, has been associated with the company since 1916. In his new position he will supervise purchase, operation, and maintenance of motor, rail, and water transport, in addition to handling traffic.

S. S. Bruce

H. A. Wolfe, railroad representative for the **Buda Company**, at St. Paul, Minn., has been appointed district manager of Buda's railroad division, with headquarters at Chicago, succeeding **Ross M. Blackburn**, whose death at Chicago, on July 25, was reported in the *Railway Age* of August 3. Mr. Wolfe was born in 1897, and received his higher education at Valparaiso University, Valparaiso, Ind. He entered railroad service in 1916 in the accounting department of the Chicago, Milwaukee, St. Paul & Pacific. Released from the armed forces in 1919, he returned to the Milwaukee as chief clerk to the general superintendent of motive power, and served in that ca-

H. A. Wolfe

News Department continued on next left-hand page

The *American* Multiple-valve Throttle

...popular the World Over

AMERICAN THROTTLE COMPANY
INCORPORATED
60 East 42nd Street, New York 17, N. Y.
122 S. Michigan Avenue, Chicago 3, Ill.

pacity until 1922, when he was promoted to supervisor of fuel. In 1926 Mr. Wolfe resigned from the Milwaukee to become special representative of the Lehon Company. In 1940 he was promoted to supervisor of railroad sales and held that position until May, 1944, when he joined Buda as field representative. In April, 1946, he was transferred to St. Paul, Minn., and served there until he assumed his new duties at Chicago.

Col. Lewis P. Winby has been elected chairman of the board of the **P. & M. Company, (England) Ltd.,** and **A. C. Meyrick,** managing director. Mr. Winby was graduated from Cambridge university, and during the South African war, was one of two honor students at the university chosen for commissions in the British Army. He attained the rank of major in that war, and at the outbreak of World War I, because he was not a reserve officer, entered service as a lieutenant. He served until the war's end, attaining the rank of lieutenant colonel. In 1919, he or-

Col. Lewis P. Winby

ganized the P. & M. Company, (England) Ltd., taking a license on all patents owned and hereafter acquired by the P. & M. Company of the United States. Mr. Winby was elected to parliament in 1925, and sat in the House of Commons for a number of years. The firm of which he is chairman has subsidiary companies in Australia, France and Belgium, and large offices in Calcutta, India.

OBITUARY

Charles H. Curry, president of Kopp Glass, Inc., Swissvale, Pa., died recently at his home in Coraopolis, Pa. He was 63 years old.

E. B. Gardner, vice-president in charge of export sales for the Hanchett Manufacturing Company, Big Rapids, Mich., died on August 14.

ADDITIONAL PRINTS OF "RAILROADIN'" SOON AVAILABLE.—With 121 prints of the 16 m.m., full-color American Locomotive-General Electric film "Railroadin'" now available, so great has been the demand that 40 new copies are being prepared for release. This saga of the nation's railroad progress has been shown to over 17,000 different audiences, since October, 1941, nearly two million people having seen the 30-min. show.

Construction

BALTIMORE & OHIO.—This road has awarded a contract to Charles A. Garies, Baltimore, Md., for the construction of runways, and the installation of movable platforms on pier No. 8, Locust Point, Baltimore, at an estimated cost of $21,980. A contract was awarded to the Welso Construction Company, Chicago, for the construction of an office building at the Barr Yard, near Halstead and 136th streets in Chicago. The estimated cost of this project is $119,900. The Acme Construction Company, Cleveland, Ohio, was awarded a contract for the construction of a spur from the Eastern Ohio branch to serve the Central Ohio Coal Company at Cumberland, Ohio. The estimated cost of this project is $127,766.

FLORIDA EAST COAST.—This road has awarded a contract to the P. C. Lissenden Company, West Palm Beach, Fla., for remodeling, enlarging and air-conditioning the ticket office and freight traffic office in West Palm Beach. The estimated cost of the project is $22,000.

MISSOURI - KANSAS - TEXAS.—This road has awarded to the Austin Bridge Company, Dallas, Tex., a contract for the reinforcement of the bases of two piers on the road's Red river bridge, north of Denison, Tex.

NEW YORK CENTRAL.—This road has awarded a contract to the Walsh Construction Company of New York, for changing the channel of the Mohawk river and improving the alignment of the main line tracks of the Mohawk division at Little Falls, N. Y.

READING.—This road has awarded a contract to the Empire Construction Company, Baltimore, Md., for constructing a track to the Pennsylvania Power & Light Co. at Clement, Pa. The estimated cost of this project is $600,000.

SEABOARD AIR LINE.—This road has awarded the following contracts, the estimated cost of each project being given in parentheses: To Hillyer & Lovan, Jacksonville, Fla., for work on Diesel repair shop facilities at Jacksonville ($360,000); to the Penetryn System, Albany, N. Y., for pressure grout consolidation of bridge piers at Lock, Ala. ($22,000); to the Virginia Bridge Company, Roanoke, Va., for the structural steel involved in the construction of a phosphate elevator at Tampa, Fla. ($148,000); to Robins Conveyors, Inc., Passaic, N. J., for conveying equipment for the phosphate elevator at Tampa ($147,000); and to the George D. Auchter Company, Jacksonville, for a passenger and freight station at Wildwood, Fla. ($150,000).

ST. LOUIS-SAN FRANCISCO.—This road has completed a $35,000 dredging program at its Pensacola (Fla.) harbor facilities to permit the accommodation of larger vessels. The Hendry Dredging Company, New Orleans, La., were the contractors.

TEXAS & PACIFIC.—In connection with a relocation required by a federal government flood control project, this road has applied to the Interstate Commerce Commission for authority to construct a 15-mile line from Ville Platte, La., to Opelousas. The government will contribute up to $755,000 toward the cost of relocation.

Financial

ALTON.—*Reorganization.*—Division 4 of the Interstate Commerce Commission has certified the results of voting by eligible security holders on the court- and commission-approved plan of reorganization for this road. In accordance with section 77 of the Bankruptcy Act the plan was submitted by the commission to holders of four classes of securities as follows: Alton refunding mortgage bonds; Joliet & Chicago stock; Louisiana & Missouri River stock; and Kansas City, St. Louis & Chicago stock. Voting in favor of the plan was 100 per cent in each group except the first, where the favorable vote was 99.87 per cent.

BAMBERGER.—*Acquisition.*—This electric road has applied to the Interstate Commerce Commission for authority to acquire and operate 1¼ miles of the Salt Lake & Utah within the limits of Salt Lake City, Utah.

CHARLESTON & WESTERN CAROLINA.—*Bonds.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $2,720,000 of first consolidated mortgage series B 5 per cent bonds to be delivered to its parent company, the Atlantic Coast Line, which will provide funds for the redemption of a like amount of first-mortgage 5 per cent bonds due October 1. The new issue will mature January 1, 1964.

CHESAPEAKE & OHIO.—*Reacquisition of Hotel.*—This road has completed preliminary arrangements with the War Assets Administration to reacquire the Greenbrier Hotel, White Sulphur Springs, W. Va., for approximately $3,300,000. The hotel was operated by the Army during the war as the Ashford General Hospital.

CHICAGO & NORTH WESTERN.—*Trackage Rights.*—Division 4 of the Interstate Commerce Commission has authorized the extension through February 1, 1981, of a December 1, 1911, agreement under which this road uses the facilities of the Peoria & Pekin Union, including 4.65 miles of single track and 4.67 miles of double track between Hollis, Ill., and Wesley City, via Peoria.

DELAWARE, LACKAWANNA & WESTERN.—*Merger of Leased Line.*—This road and its affiliate, the Greene, have jointly applied to the Interstate Commerce Commission for approval of a transaction whereby the latter would merge into the D. L. & W., which has operated it under lease since 1870 and owns all outstanding shares of its capital stock. The Greene's line extends from Chenango Forks, N. Y., to Greene, 8.1 miles.

News Department continued on next left-hand page

Tough Mountain Hauls

— a daily dish

HAULING heavy freight up high-altitude mountains—and braking it down heavy grades with sharp curvature—is the tough test of a locomotive's stamina and brute power.

To see how General Motors freight Diesels take such back-breaking work in stride, consider the remarkable record they are running up on the Denver and Rio Grande Western.

In this extremely rugged service *twelve* General Motors freight Diesels show an average availability record of 90.3% — and they have covered a total of 3,675,081 miles. The average for each locomotive is 9,671 miles per month — on about the toughest hauling you can find.

This is self-evident recommendation both of the tractive power and of the efficacy of the variable speed electric brakes; not forgetting important economies in maintenance and operating costs.

It's another example of sound, proved engineering — of the value of concentration on Diesel locomotives—and of the most advanced manufacturing operations in the field of locomotive building.

YOUTHFUL IN STAYING POWER

GENERAL MOTORS LOCOMOTIVES

VETERANS IN PERFORMANCE

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS — LA GRANGE, ILL.

ERIE.—*Promissory Notes.*—This road has applied to the Interstate Commerce Commission for authority to issue $1,938,850 in promissory notes to further evidence approximately 80 per cent of the indebtedness it will assume under conditional sales agreements by which it plans to purchase nine 1,000-hp. and six 600-hp. Diesel-electric switching locomotives from the American Locomotive Company at an estimated total cost of $1,224,159; two 1,000-hp. and two 660-hp. Diesel-electric switching locomotives from the Baldwin Locomotive Works at an estimated total cost of $318,500; and 200 gondolas from the Bethlehem Steel Company at an estimated total cost of $882,400.

GULF, MOBILE & OHIO. — *Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $3,000,000 of Series B equipment trust certificates, the proceeds of which will be applied toward the payment of approximately $3,921,200 for equipment which the applicant proposes to purchase, as outlined in *Railway Age*, August 31, page 387. The certificates will mature in 15 annual installments of $200,000 each beginning September 1, 1947. The report approves a selling price of 100.73, the bid of Salomon Brothers & Hutzler and Stroud & Company, on which basis the average annual cost will be approximately 2.03 per cent.

MAHONING COAL.—*Reduced Dividend.*—A dividend of $6.25 a common share has been declared by this road, payable on October 1 to stockholders of record on September 23. The previous payment was $7.50 a share on July 1.

MISSOURI-ILLINOIS.—*Reorganization Proceedings Ended.*—Federal District Judge George H. Moore has dismissed finally reorganization proceedings of the Missouri-Illinois, a subsidiary of the Missouri Pacific. The court's action formally recognizes termination of Section 77 proceedings effective May 31, 1944, the date upon which the railroad and its rolling stock were turned back to their owners. The road now stands completely discharged from further court action. It has paid bond interest since July, 1940.

MONTOUR-YOUNGSTOWN & SOUTHERN.—*Sale.*—The Pittsburgh Consolidation Coal Company (Pittsburgh, Pa.) has announced completion of an agreement to sell these roads to the Pennsylvania and the Pittsburgh & Lake Erie for $10,000,000. The sale will involve $9,250,000 in cash and the guarantee of $750,000 in outstanding obligations of the Youngstown & Southern. Application for approval of the acquisition will be filed with the Interstate Commerce Commission by the purchasers, which are to have equal ownership in the properties.

SOUTHERN. — *Equipment Trust Certificates.*—This road has awarded $7,880,000 of series LL equipment trust certificates to the First National Bank, New York, on its bid of 99.611 for a 1⅝ per cent coupon. Dated September 15, 1946, the certificates will mature in ten equal annual installments. Their sale will provide approximately 80 per cent of the cost of certain equipment to be ordered by the Southern. (See the *Railway Age* for August 17, page 315.) The certificates were not reoffered to the public.

SOUTHERN.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $7,880,000 of 10-year, 1⅝ per cent, equipment trust certificates, series LL, to be sold at 99.611 and accrued dividends the bid of the First National Bank of New York which had been accepted subject to commission approval. On that basis the average annual cost will be approximately 1.69 per cent. The proceeds will be used to finance in part the acquisition of equipment costing approximately $9,860,000, including six 6,000-hp. Diesel-electric road freight locomotives, 14 1,000-hp. Diesel-electric switchers, and 1,000 automobile box cars. The certificates will mature in 10 equal annual installments of $788,000 each on September 15 of each year from 1947 to 1956, inclusive.

ST. LOUIS-SAN FRANCISCO.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $5,500,000 of equipment trust certificates to finance in part the acquisition of equipment to cost a total of approximately $7,346,358, including four 4,000-hp. Diesel-electric locomotives, 300 automobile box car equipped with loaders, 200 70-ton hopper ballast cars, and 38 passenger-train cars. The certificates would be sold on the basis of competitive bids with the dividend rate determined by such bids. They would mature in 10 equal annual installments on October 1 of each year from 1947 to 1956, inclusive.

TEXAS & PACIFIC.—*Dividend Meeting.*—The directors of this road announced on September 11 that they expect to take action on a common dividend in November rather than at the last meeting of the year, as has been customary. The previous payment on the common stock was $2.50 a share on December 20, 1945.

WHEELING & LAKE ERIE.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $1,720,000 of equipment trust certificates, series L. The certificates, to be sold on the basis of competitive bids with the dividend rate determined by such bids, would mature in equal semi-annual installments on April 1 and October 1 of each year from 1947 to 1956, inclusive. The proceeds would finance in part the acquisition from the Ralston Steel Car Company of 750 high-side gondola cars at a total cost of approximately $2,150,002.

Dividends Declared

Akron, Canton & Youngstown.—5% preferred, $2.50, semi-annually, payable October 1, to holders of record September 14.

New London Northern.—$1.75, quarterly, payable October 1 to holders of record September 14.

Providence & Worcester.—$2.20, quarterly, payable October 1 to holders of record September 16.

Savannah & Atlanta.—5% preferred, $1.25, payable October 1 to holders of record September 11.

Southern.—Mobile & Ohio stock trust certificates.—$2.00, semi-annually, payable October 1 to holders of record September 16.

Average Prices Stocks and Bonds

	Sept. 17	Last Week	Last Year
Average price of 20 representative railway stocks	52.31	49.08	55.98
Average price of 20 representative railway bonds	91.03	90.96	96.86

Abandonments

DENVER & RIO GRANDE WESTERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a portion of its so-called Park City branch, extending 24.10 miles from a point near Cement Quarry, Utah, to Park City, and also to abandon the operation of its so-called Ontario branch, extending 2.55 miles from a connection at Park City to the end of the track. Operation of the Ontario branch will be continued by the Union Pacific, which owns it jointly with the applicant. In approving these transactions, the commission imposed the usual employee-protection conditions.

FLINT RIVER & NORTHEASTERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its entire line, extending approximately 23 miles from Ticknor, Ga., to Pelham.

SOUTHERN PACIFIC. — Examiner Lucian Jordan has recommended in a proposed report that Division 4 of the Interstate Commerce Commission deny an application of this road for authority to abandon a portion of its so-called Fruto branch, extending 11.02 miles from Kurand, Calif., to Fruto. The line handles freight traffic, chiefly cattle and lumber. The examiner's adverse recommendation is based on his finding that the proposed abandonment "would result in serious inconvenience to the general public." He recognized that the volume of traffic handled since 1943 has been so low that the revenues earned did not cover expenses; but he also found in the record evidence that "the business of the line will be increased materially and that such increase will be maintained for several years."

TEXAS MEXICAN.—This road has applied to the Interstate Commerce Commission for authority to cancel what it terms an "extremely onerous" trackage agreement under which the St. Louis, Brownsville & Mexico, subsidiary of the Missouri Pacific, operates over the main line of the applicant between Corpus Christi, Tex., and Robstown, approximately 16 miles, including the use of terminal facilities at both cities. The application follows the recent decision of the United States Supreme Court which halted the applicant's undertaking to enforce the agreement's cancellation clause without first seeking commission approval (see *Railway Age* of May 4, page 928).

TEXAS & PACIFIC.—In connection with a relocation required by a federal government flood control project, this road has applied to the Interstate Commerce Commission for authority to abandon and dismantle its 24.1-mile line extending from Melville, La., to Opelousas.

TONOPAH & GOLDFIELD.—This road has applied to the Interstate Commerce Commission for authority to abandon its entire 97.28-mile line, extending from Mina, Nev., to Goldfield, including 9 miles of leased line from Tonopah Junction, Nev., to Mina, where the T. & G. connects with the Southern Pacific.

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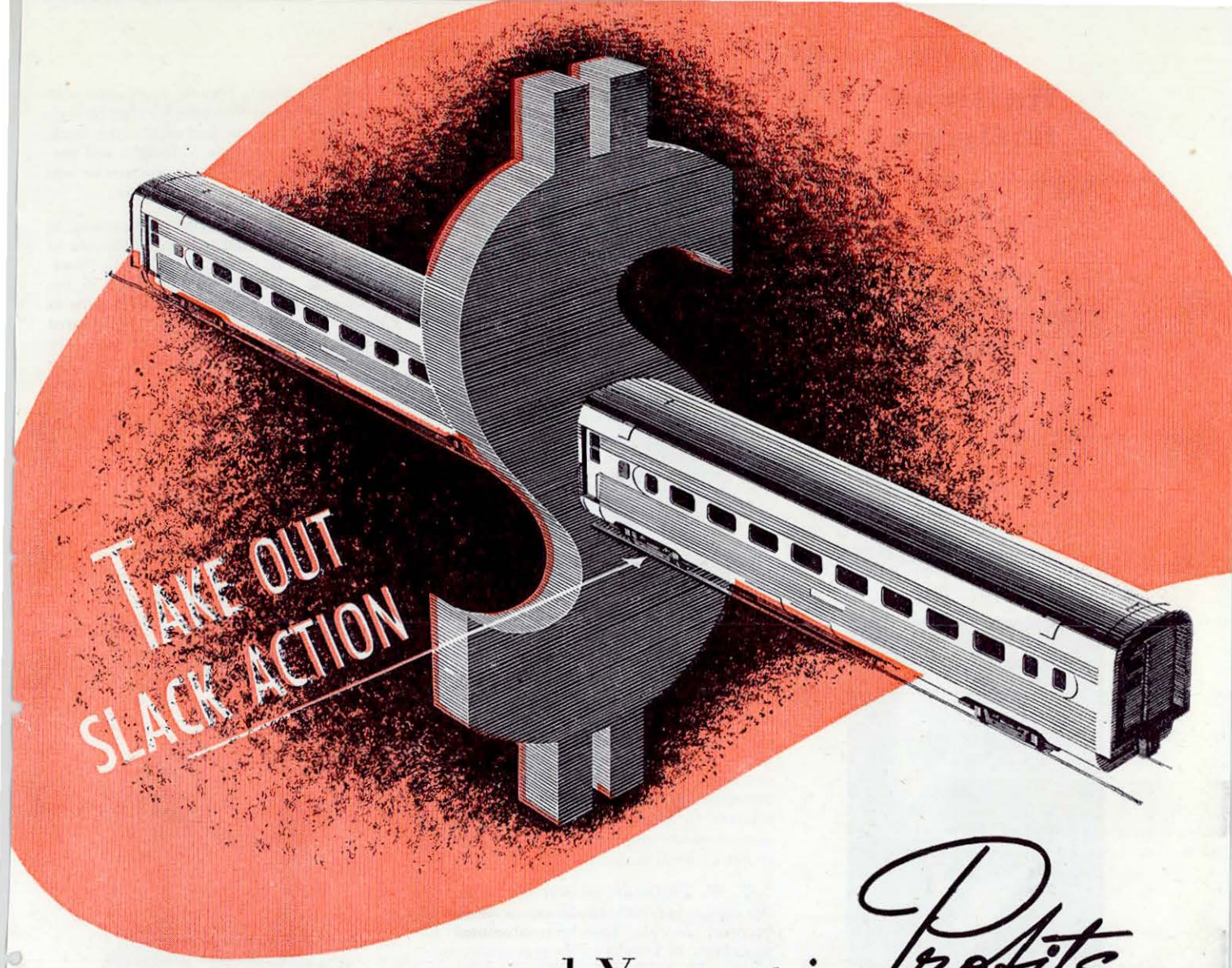

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"HSC" Electro-Pneumatic Brakes embody electric control for simultaneous, uniform application and release of brake force on every car in the train. Each brake does its equally proportional share of retarding—all working in harmony to stop trains smoothly and quickly. Definite by-product of this simultaneous and uniform brake action, is the disappearance of slack action. And, when slack action vanishes, passenger comfort mounts and maintenance costs go down. Both are factors in profitable railroading.

Specify this Westinghouse trio for Passenger Service:

***"HSC" Electro-Pneumatic Brakes* . . . for braking flexibility to match modern train speeds, and unequalled smooth action**

***Speed Governor Control* . . . for regulating brake forces to wheel speeds**

***"AP" Decelostat* . . . for wheel slip detection to keep the wheels rolling**

Brakes are Basic to Railroad Progress

Westinghouse Air Brake Co.

WILMERDING, PA.

Railway Officers

EXECUTIVE

James E. Wolfe, whose promotion to assistant to the vice-president-labor-relations, of the Chicago, Burlington & Quincy, with headquarters at Chicago, was reported in the *Railway Age* of September 7, was born on June 11, 1902, at Shelbina, Mo., and began his railroad career in 1919 as a machinist helper with the road, at Hannibal, Mo. From 1923 to 1939, except for a short time when he served as assistant auditor of the Hannibal Connecting, Mr. Wolfe was switchman, clerk, stenographer, chief timekeeper and relief yardmaster at Hannibal. In 1939 he was advanced to stenographer and clerk for the assistant to the executive vice-president, with headquarters at Chicago, and became chief clerk in 1940. He was promoted to supervisor of wage

James E. Wolfe

schedules in 1942, and became staff officer to the operating vice-president on April 1, 1946, which position he held until his recent promotion.

FINANCIAL, LEGAL AND ACCOUNTING

S. L. Stein has been promoted to general claim agent of the Missouri-Kansa-Texas, with headquarters at Parsons, Kan.

Enrique Laos, acting general auditor of the Southern Pacific of Mexico, has been appointed general auditor, and **A. M. Elosua,** acting assistant general auditor, has been appointed assistant general auditor.

Orrin S. Braden, whose appointment as real estate and tax agent of the Pittsburgh & Lake Erie and the Lake Erie & Eastern, with headquarters at Pittsburgh, Pa., was announced in the August 10 issue of *Railway Age,* entered railway service in 1902 in the engineering department of the P. & L. E. He served that department in various capacities until 1916, when he was appointed land agent in charge of physical valuation in the real estate and tax department. In 1929 he was named assistant real estate agent and served in that capacity until 1940, when he entered the operating department as assistant to the general manager, which post he maintained until the time of his recent appointment.

O. J. Wullstein, whose promotion to general freight claim agent of the Union Pacific, with headquarters at Omaha, Neb.,

O. J. Wullstein

was reported in the *Railway Age* of September 7, was born at Remsen, Iowa, on June 13, 1897, and began his railroad career in 1916 as an office boy in the Union Pacific's freight claim department at Salt Lake City, Utah. Mr. Wullstein was advanced to freight claim adjuster before his transfer to Omaha in 1936. In 1940, he returned to Salt Lake City as freight claim agent, which position he held until his recent promotion.

C. W. Philhour, general yardmaster of the Santa Fe, with headquarters at Albuquerque, N. M., has been promoted to supervisor of freight claim prevention, succeeding **R. A. Podlech,** whose retirement was reported in the *Railway Age* of September 14.

H. A. Young, whose promotion to auditor of freight and passenger receipts of the Chicago Great Western, with headquarters at Chicago, was reported in the *Railway*

H. A. Young

Age of September 7, was born at Chicago on July 14, 1891, and began his railroad career in 1907 as a clerk in the accounting department of the Chicago, Milwaukee and St. Paul (now the C. M. St. P. & P.). In 1910 Mr. Young became associated with the Chicago Great Western, serving in various clerical positions, including chief clerk, and as assistant auditor of freight and passenger receipts, which latter position he held at the time of his recent promotion.

James F. Wade, whose retirement as auditor of freight and passenger receipts of the Chicago Great Western, with headquarters at Chicago, was reported in the *Railway Age* of September 7, was born in Chicago on November 3, 1867. He entered railway service in 1883 as a clerk in the auditing department of the Chicago & Alton (now Alton), serving in various clerical capacities until his promotion to chief clerk to the auditor of passenger receipts. In 1909 he left the Chicago & Alton to accept appointment as auditor of passenger receipts of the Great Western. In 1932 he was promoted to auditor of freight and passenger receipts, which position he held at the time of his retirement.

OPERATING

Morris F. Cary, whose promotion to superintendent of the Fort Street Union Depot Company, a subsidiary of the Pere

Morris F. Cary

Marquette, at Detroit, Mich., was reported in the *Railway Age* of September 7, entered the service of the Pere Marquette as a fireman in 1911, became a switchman in 1917, and in 1924 was promoted to assistant yardmaster. Mr. Cary was advanced to assistant general yardmaster in 1926, and became general yardmaster in 1942. He was promoted to trainmaster, with headquarters at the Grand Rapids (Mich.) terminal, in 1943, and in 1945 was made assistant superintendent at Detroit, which position he held until his recent promotion.

Oscar Edmondson has been appointed supervisor of mail and express of the Nashville, Chattanooga & St. Louis, with headquarters at Nashville, Tenn.

C. W. Coil, whose promotion to superintendent of the Northern Pacific, with headquarters at Missoula, Mont., was announced in the *Railway Age* of September 7, was born on May 22, 1892, near Spencerville, Ohio, and began his railroad career in 1911 as a voucher clerk in the office of the road's treasurer at St. Paul, Minn. Mr. Coil was advanced to assistant roadmaster

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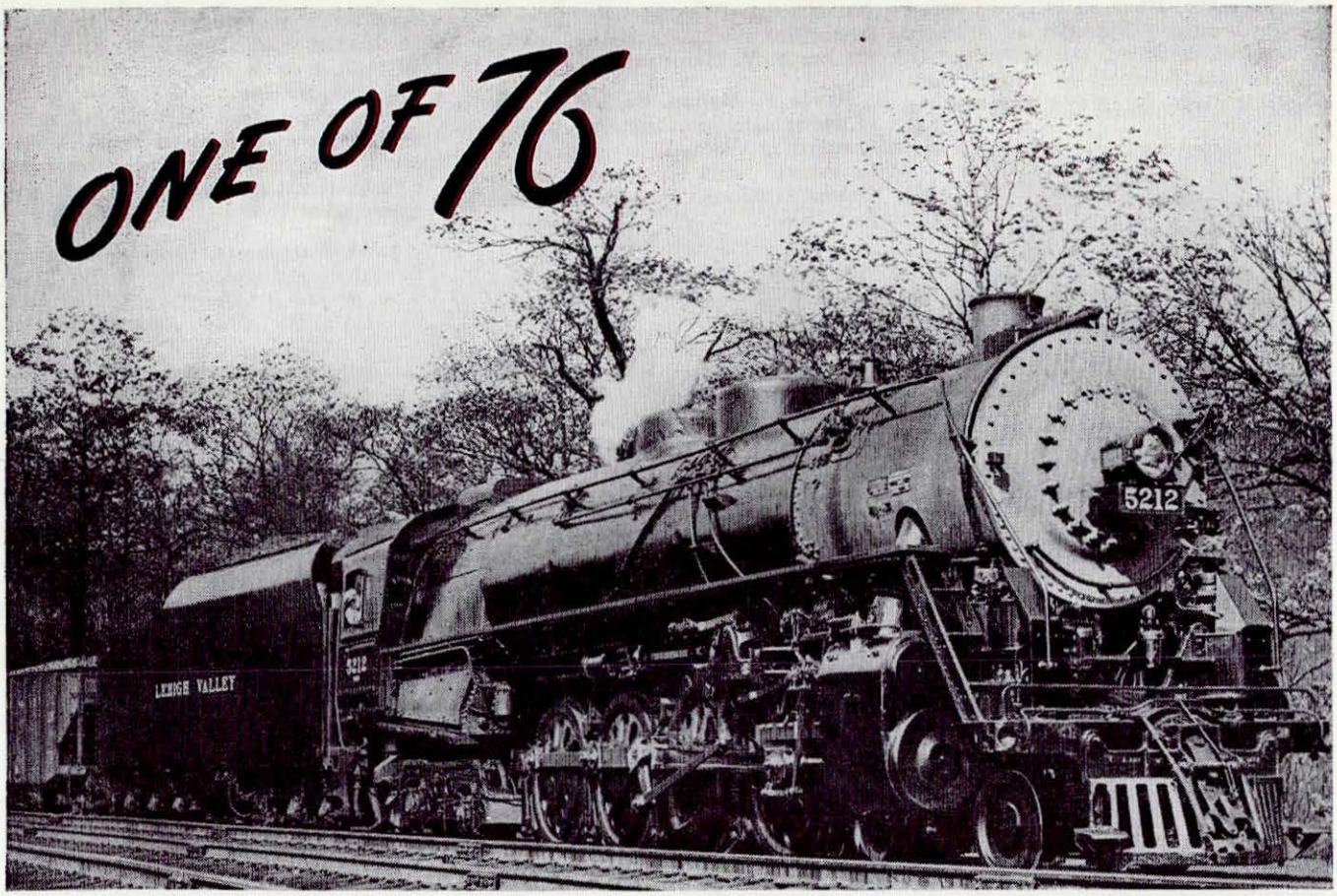

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at Minneapolis, Minn., in 1917, and subsequently became roadmaster at Mandan, N. D., Helena, Mont., and Missoula. In 1928, he was promoted to general roadmaster at Fargo, N. D. and later held the

C. W. Coil

positions of trainmaster and roadmaster at several points on the Northern Pacific. In 1941, he was made superintendent of the Duluth Union Depot Company and assistant superintendent of the road's Lake Superior division, with headquarters at Duluth, Minn. During the war, he served as a lieutenant-colonel in the Office of the Chief of Transportation, with headquarters at London, England, and for a time was stationed at Skagway, Alaska. Following release from the Army, Mr. Coil was appointed assistant superintendent at Spokane, Wash., later serving at Missoula. He held the latter position until his recent promotion.

C. A. Nummerdor, assistant division superintendent of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Lewistown, Mont., has been promoted to superintendent of transportation, lines west of Mobridge, S. D., with headquarters at Seattle, Wash., succeeding **N. A. Meyer,** who has retired because of ill health.

Dan Healy, whose retirement as superintendent of the Northern Pacific, with headquarters at Missoula, Mont., was reported in the *Railway Age* of September 7, was born on June 10, 1880, at Mazomanie, Wis., and began his railroad career in 1898 in the bridge and building department of the Northern Pacific at Livingston, Mont. He served as a brakeman, and later was a conductor before being advanced to trainmaster at Livingston in 1926. He was promoted to assistant superintendent there in 1933, and in 1944 was advanced to superintendent at Missoula, which position he held at the time of his retirement.

TRAFFIC

C. T. Carey has been appointed assistant passenger traffic manager of the Union Pacific, with headquarters at Omaha, Neb.

L. R. Hendrickson has been appointed general agent of the Chicago Great Western, with headquarters at Indianapolis, Ind., succeeding **G. C. Hay,** who has resigned.

J. T. Moore, chief clerk in the general passenger agent's office of the Canadian National, has been appointed district passenger agent at Montreal, Que., succeeding the late **A. V. Hamilton.**

Bruce F. Mahon, traffic representative of the St. Louis-San Francisco, with headquarters at Chicago, has been promoted to general agent, with headquarters at Omaha, Neb., succeeding **P. J. Rose,** who has retired.

Richard D. Johnson, district passenger agent of the New York, New Haven & Hartford, with headquarters at Hartford, Conn., has been appointed general passenger agent at New Haven, Conn., while **Henry T. Moorhead,** chief clerk at New Haven, has been named district passenger agent at Hartford. **George S. Douglas,** traveling passenger agent at New York, has been appointed district passenger agent with headquarters at Boston, Mass.

C. W. Edwards, whose appointment as general passenger agent of the Chicago Great Western, with headquarters at Chicago, was announced in the *Railway Age* of September 7, was born in Webster City, Iowa, on August 21, 1884, and began his railroad career as a clerk in the passenger accounting department of the Chicago & North Western at Chicago in 1907. He held various clerical positions with that road until March, 1920, when he joined the Great Western, serving as passenger rate clerk, chief rate clerk and chief clerk in the passenger department. In 1942 Mr. Edwards was appointed assistant general passenger agent, which position he held at the time of his recent promotion.

James S. Bloodworth, whose appointment as general passenger agent of the

James S. Bloodworth

Southern, with headquarters at Raleigh, N. C., was announced in the September 7 issue of *Railway Age,* was born at Gordon, Ga., on September 11, 1884, and entered railroading in 1904 as a relief agent for the Central of Georgia, later becoming agent-operator, then chief clerk. He joined the Southern in 1906 as clerk-operator at Savannah, Ga., where he advanced to assistant city passenger and traffic agent in 1908 and to city passenger and traffic agent in 1910. After serving as traveling passenger agent and passenger service agent from 1913 to 1921, he was named district passenger agent at Raleigh, then was promoted in 1931 to office manager of the passenger traffic department at Washington, D. C. He returned to Raleigh in 1932 as district freight and passenger agent, and advanced to district passenger agent there in 1942, and to assistant general passenger agent in 1944. Mr. Bloodworth maintained the latter post until his recent appointment as general passenger agent.

J. M. Parramore, whose promotion to general freight agent of the Grand Trunk Western, with headquarters at Chicago, was reported in the *Railway Age* of August 31,

J. M. Parramore

was born on June 12, 1892, at Lebanon, Ky. In 1919, Mr. Parramore became associated with the Chicago, New York & Boston Refrigerator Company (a subsidiary of the Grand Trunk Western—Canadian National) as assistant agent at Boston, Mass. He was promoted to general agent in 1931, and four years later moved to Chicago as traffic manager. He advanced to president and general manager of the company in 1940, and when it became part of Grand Trunk Western in 1942, Mr. Parramore was appointed dairy traffic manager for the road. He was advanced to assistant general freight agent in 1944, which position he held until his promotion.

V. J. Kenny

V. J. Kenny, whose promotion to passenger traffic manager of the Great Northern, with headquarters at St. Paul, Minn., was reported in the *Railway Age* of September 7, began his railroad career in

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SWITCH STANDS
. . . for Main Line Use

FIG. 17-C (Pat.)
RACOR AUTOMATIC SAFETY SWITCH STAND

FIG. 112-D
RACOR COLUMN SWITCH STAND

FIG. 36-H (Pat.)
RACOR PARALLEL THROW GEARLESS SWITCH STAND

FIG. 36-D (Pat.)
RACOR PARALLEL THROW GEARLESS SWITCH STAND

A wealth of knowledge acquired from years of experience in manufacture is incorporated in the designing of Racor's Switch Stands.

Outstanding in their design and construction are the latest and most modern improvements, all parts of which are accurately and ruggedly built and readily accessible for inspection.

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Only Ramapo has plants from coast to coast to expedite America's Railroad needs.

Freight Operating Statistics of Large Steam Railways—Selected

Region, road, and year		Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: Per cent: B. O.	Road locos. on line: Per cent: B. O.
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	1945	362	184,866	211,288	31,775	4,429	61.1	295,901	121,180	75	..	19	20.2
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	1945	1,777	349,467	364,752	16,240	13,597	69.1	858,516	383,387	139	10	14	8.6
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	1945	1,815	467,524	642,581	56,250	18,588	70.9	1,097,641	482,587	224	17	37	16.6
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	1945	1,026	290,912	295,788	2,466	9,227	64.4	607,411	261,848	64	1	14	17.7
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	1945	10,331	3,603,689	3,882,685	248,062	136,812	63.4	9,442,017	4,353,289	1,103	29	280	19.8
New York, Chi. & St. L.	1946	1,656	462,658	470,578	6,430	21,854	71.1	1,315,452	559,667	128	34	26	13.8
	1945	1,656	796,055	808,688	11,062	32,102	67.7	2,088,295	944,700	163	14	20	10.2
Pere Marquette	1946	1,915	287,669	297,011	6,656	10,773	71.4	671,205	296,970	124	18	25	15.0
	1945	1,915	491,059	512,949	13,306	17,798	65.7	1,198,815	559,818	142	..	24	14.5
Pitts. & Lake Erie	1946	229	60,444	60,459	105	2,343	66.0	193,731	113,069	22	8	20	40.0
	1945	229	96,544	99,223	210	4,155	65.0	349,141	204,158	30	..	16	34.8
Wabash	1946	2,381	569,896	588,161	13,652	20,577	71.8	1,259,063	525,829	155	19	36	17.1
	1945	2,381	824,009	852,751	18,419	30,023	67.9	1,984,975	900,435	177	..	35	16.5
Central Eastern Region:													
Baltimore & Ohio	1946	6,103	1,617,074	1,980,635	206,302	57,862	67.0	3,891,087	1,834,792	798	62	304	26.1
	1945	6,095	2,525,547	3,119,759	308,576	89,661	64.8	6,476,250	3,254,295	922	3	258	21.8
Central of New Jersey†	1946	649	142,893	166,420	46,571	5,594	68.6	395,035	207,910	101	3	50	32.5
	1945	654	221,228	254,478	53,701	8,045	62.8	575,698	281,038	117	10	24	15.9
Chicago & Eastern Ill.	1946	910	120,411	121,473	2,443	4,112	73.6	252,779	116,469	50	9	20	25.3
	1945	912	296,113	301,000	8,351	8,829	62.6	614,123	284,431	73	..	9	11.0
Elgin, Joliet & Eastern	1946	392	85,625	90,614	2,570	2,644	69.0	193,444	103,219	40	10	19	27.5
	1945	392	129,817	134,678	4,008	3,855	68.8	289,504	157,819	60	..	16	21.1
Long Island	1946	372	27,464	29,544	14,275	365	56.7	25,694	10,974	31	..	3	8.8
	1945	372	35,695	37,103	17,205	365	57.8	24,981	10,440	42	..	6	12.5
Pennsylvania System	1946	10,033	2,965,532	3,425,412	456,666	125,043	68.1	7,920,719	3,567,863	1,707	242	307	13.6
	1945	10,024	4,718,067	5,477,716	709,885	183,079	63.5	13,128,092	6,391,110	2,035	..	196	8.8
Reading	1946	1,361	439,554	486,509	55,019	14,101	67.6	1,044,172	568,730	249	16	62	19.0
	1945	1,365	529,823	593,304	68,127	18,074	64.0	1,350,626	711,225	257	28	52	15.4
Pocahontas Region:													
Chesapeake & Ohio	1946	3,045	718,366	774,273	36,046	33,176	63.5	2,543,019	1,461,889	441	33	65	12.1
	1945	3,037	1,172,306	1,263,688	57,887	55,927	58.0	4,736,373	2,710,443	429	15	85	16.1
Norfolk & Western	1946	2,139	500,414	530,549	36,099	21,455	64.1	1,686,449	897,422	240	84	18	5.3
	1945	2,139	756,940	807,877	59,874	36,146	60.5	3,039,745	1,649,308	267	26	19	6.1
Southern Region:													
Atlantic Coast Line	1946	5,552	1,023,886	1,049,047	7,688	28,076	67.9	1,749,113	764,587	401	16	23	5.2
	1945	5,557	1,201,142	1,216,376	17,753	32,731	65.8	2,132,165	955,810	422	2	29	6.4
Central of Georgia†	1946	1,783	280,087	286,433	5,402	7,154	73.1	444,812	204,197	94	..	8	7.8
	1945	1,783	326,453	333,080	5,489	8,169	73.6	519,193	248,098	96	..	8	7.7
Gulf, Mobile & Ohio	1946	1,931	266,354	324,976	3,287	9,469	74.1	590,808	274,525	101	10	15	11.9
	1945	1,932	324,468	417,485	3,090	12,429	76.3	762,942	358,854	104	4	8	6.9
Illinois Central (incl. Yazoo & Miss. Vy.)	1946	6,601	1,223,281	1,235,104	41,923	47,230	66.8	3,014,261	1,340,507	575	25	104	14.8
	1945	6,605	1,851,296	1,884,790	34,059	71,980	62.8	4,992,146	2,299,692	639	3	64	9.1
Louisville & Nashville	1946	4,750	1,116,131	1,206,988	30,586	30,030	67.7	1,945,657	901,262	388	50	59	11.9
	1945	4,746	1,755,231	1,897,675	50,340	46,958	64.6	3,337,735	1,656,366	419	5	57	11.9
Seaboard Air Line*	1946	4,139	889,507	945,006	12,422	25,795	68.3	1,658,431	690,689	276	..	62	18.3
	1945	4,157	994,767	1,057,622	15,369	28,124	68.1	1,830,003	809,782	266	..	66	19.9
Southern	1946	6,450	1,713,820	1,745,791	30,012	43,508	71.4	2,567,133	1,119,544	593	5	132	18.1
	1945	6,471	2,120,427	2,155,411	37,988	50,313	71.6	3,112,156	1,441,442	603	..	106	15.0
Northwestern Region:													
Chi. & North Western	1946	8,062	868,893	903,155	19,042	27,828	66.7	1,813,266	793,098	362	24	126	24.6
	1945	8,062	1,118,993	1,168,767	25,756	36,050	68.8	2,441,442	1,135,575	357	8	107	22.7
Chicago Great Western	1946	1,445	224,335	227,860	11,071	7,119	71.0	452,473	197,893	65	..	14	17.7
	1945	1,445	282,733	290,246	9,132	9,282	74.7	592,677	275,921	69	..	10	12.7
Chi., Milw., St. P. & Pac.	1946	10,725	1,192,349	1,258,628	49,161	40,179	66.9	2,639,080	1,183,459	438	96	71	11.7
	1945	10,714	1,574,904	1,682,487	78,670	55,742	66.5	3,820,116	1,814,734	503	42	63	10.4
Chi., St. P., Minneap. & Om.	1946	1,606	175,924	187,408	10,638	4,665	71.1	301,825	135,868	82	1	41	33.1
	1945	1,606	204,060	220,066	13,544	5,545	69.3	377,558	175,767	89	18	22	17.1
Duluth, Missabe & I. R.	1946	546	88,358	88,665	459	4,680	50.8	434,961	264,692	44	..	4	8.3
	1945	546	170,164	171,026	1,672	9,305	51.0	861,634	525,605	51	..	3	5.6
Great Northern	1946	8,236	980,809	981,050	48,938	36,325	64.7	2,606,022	1,252,089	344	73	79	15.9
	1945	8,276	1,288,238	1,288,509	69,893	54,274	66.8	3,933,996	1,994,438	397	15	63	13.3
Min., St. P. & S. St. M.	1946	4,181	429,581	441,976	8,915	12,058	65.2	811,745	375,246	130	..	13	9.1
	1945	4,259	469,164	483,582	7,677	12,663	63.5	898,057	432,433	127	3	13	9.1
Northern Pacific	1946	6,576	752,854	791,475	49,188	27,889	70.1	1,921,849	929,964	319	57	63	14.4
	1945	6,577	984,901	1,049,782	74,598	43,139	72.7	2,877,248	1,452,896	372	15	62	13.8
Central Western Region:													
Alton†	1946	915	163,349	165,510	575	4,853	69.2	311,637	147,636	58	22	16	16.7
	1945	915	290,230	310,131	1,041	8,222	70.3	541,756	256,240	72	..	8	10.0
Atch., Top. & S. F. (incl. G. C. & S. F. & P. & S. F.)	1946	13,085	2,644,802	2,804,936	166,329	95,394	65.8	6,286,973	2,393,977	749	80	152	15.5
	1945	13,115	3,956,561	4,180,500	214,121	146,624	65.3	9,810,026	4,084,102	906	2	101	10.0
Chi., Burl. & Quincy	1946	8,666	1,024,854	1,066,233	37,693	40,033	68.3	2,609,863	1,191,972	396	80	72	13.1
	1945	8,789	1,413,645	1,490,038	44,685	55,459	69.1	3,792,938	1,844,909	412	..	92	18.3
Chi., Rock I. & Pac.†	1946	7,615	1,032,706	1,062,000	17,553	33,099	65.9	2,147,735	920,040	326	35	99	21.5
	1945	7,716	1,518,334	1,597,908	23,308	46,360	67.4	3,077,333	1,405,516	379	..	80	17.4
Denver & R. G. Wn.†	1946	2,386	282,232	306,740	35,614	8,519	77.2	523,473	251,717	123	39	39	19.4
	1945	2,386	518,227	589,012	112,887	19,172	80.8	1,189,697	607,426	177	11	35	15.7
Southern Pacific	1946	8,172	2,126,460	2,390,018	395,386	82,292	66.2	5,438,430	2,140,059	788	3	170	17.7
	1945	8,179	2,396,821	2,736,579	397,298	104,880	69.3	6,815,459	2,859,274	775	1	169	17.9
Union Pacific	1946	9,775	1,968,137	2,063,557	160,358	75,726	68.3	4,807,982	1,972,086	571	188	135	15.1
	1945	9,781	3,281,547	3,485,647	294,501	126,303	72.0	8,083,267	3,552,389	823	28	61	6.7
Southwestern Region:													
Mo.-Kans.-Texas Lines	1946	3,241	490,825	505,022	9,129	13,644	67.0	864,204	373,660	110	..	54	32.9
	1945	3,241	885,116	920,556	16,076	25,226	61.4	1,743,592	785,193	149	..	18	10.8
Missouri Pacific†	1946	7,053	1,254,938	1,317,491	31,492	43,684	65.6	2,849,304	1,198,272	428	..	85	16.6
	1945	7,056	1,820,465	1,924,931	49,446	66,370	65.5	4,546,009	2,082,459	464	..	72	13.4
Texas & Pacific	1946	1,871	361,645	361,645	8,921	11,730	67.3	768,617	318,639	115	35	9	5.7
	1945	1,882	480,559	480,559	6,597	17,166	70.3	1,079,483	459,277	123	13	16	10.5
St. Louis-San Francisco†	1946	4,615	808,278	833,715	9,791	20,277	65.8	1,316,493	568,907	303	9	29	8.5
	1945	4,615	1,167,089	1,241,566	17,848	29,745	68.0	1,979,041	916,906	311	..	30	8.8
St. Louis-San Fran. & Texas	1946	156	29,996	32,148	26	562	62.7	39,295	16,539	8	..	1	11.1
	1945	161	37,714	39,900	...	642	68.5	41,861	18,118	9	..	..	..
St. Louis Southw. Lines†	1946	1,568	326,404	329,542	4,570	13,206	73.6	755,779	337,844	83	34	20	14.6
	1945	1,600	546,462	553,796	7,337	20,211	67.1	1,281,467	572,834	114	5	20	14.4
Texas & New Orleans	1946	4,321	897,237	899,183	17,252	24,901	70.4	1,554,351	651,329	238	..	28	10.5
	1945	4,325	1,308,705	1,312,938	46,512	34,294	65.0	2,275,025	970,895	265	..	21	7.3

* Report of receivers. † Report of trustee or trustees.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

SWITCH STANDS
. . . for Main Line Use

FIG. 17-C (Pat.)
RACOR AUTOMATIC SAFETY SWITCH STAND

FIG. 112-D
RACOR COLUMN SWITCH STAND

FIG. 36-H (Pat.)
RACOR PARALLEL THROW GEARLESS SWITCH STAND

FIG. 36-D (Pat.)
RACOR PARALLEL THROW GEARLESS SWITCH STAND

A wealth of knowledge acquired from years of experience in manufacture is incorporated in the designing of Racor's Switch Stands.

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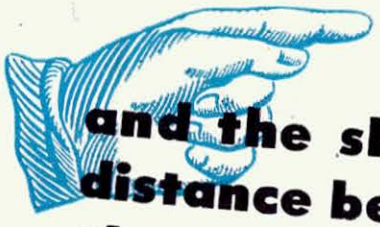

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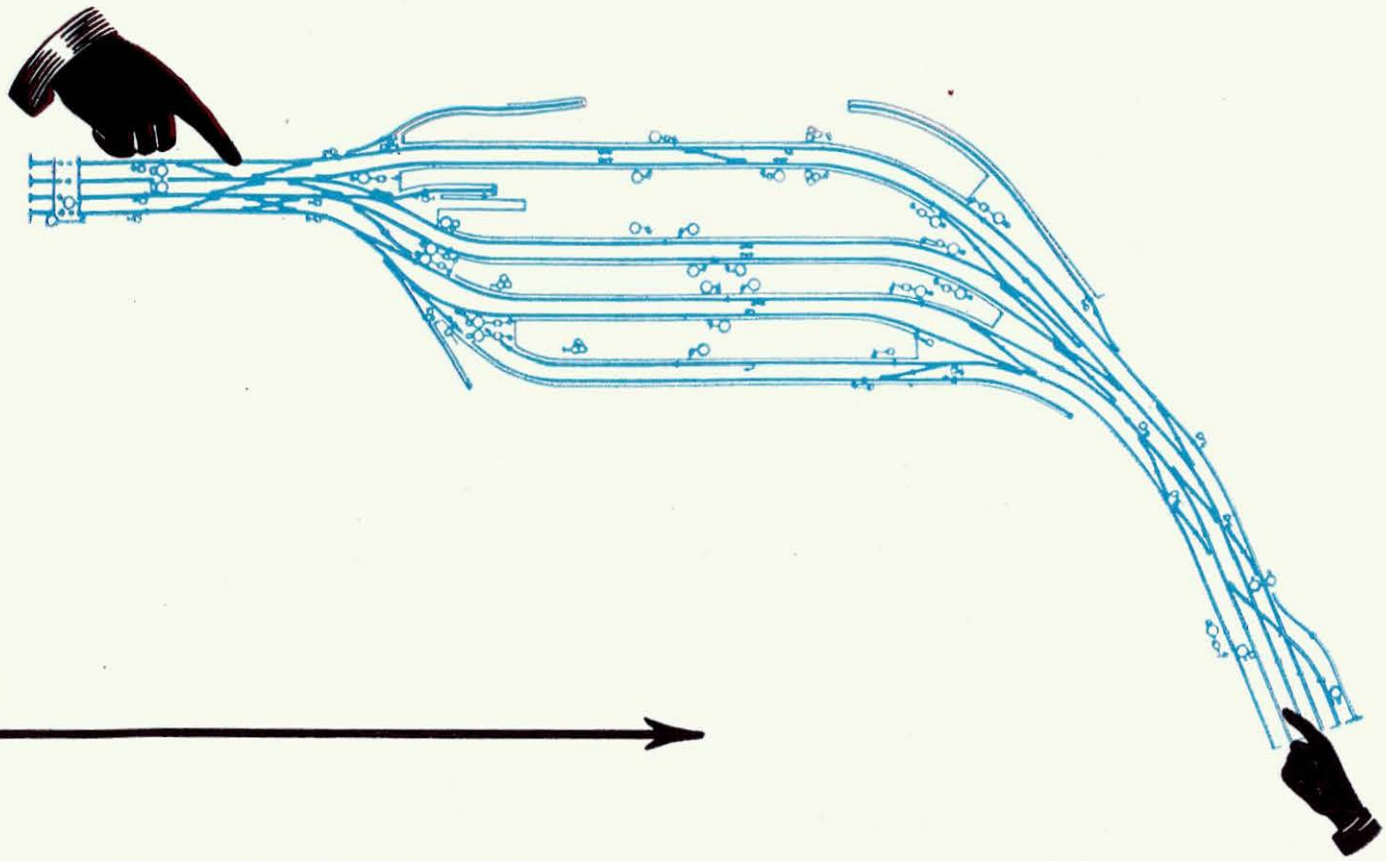
With NX Electric Interlocking, smooth, fast flow of traffic is assured . . . No matter how complex your terminal, or how busy it is.

So simple is the operation of this modern G-R-S system that the operator can set up a route in seconds, not minutes. *And he can still speed trains through busy terminals faster than ever before!*

He can handle many routes at the same time – *and still be assured of obtaining the best routes available.* He can work with little mental and physical fatigue – *and still reduce delays and tie-ups to a minimum.*

With NX, only two fingertip operations are necessary to line up a route. The operator merely manipulates an eNtrance knob and an eXit but-



ton on his control board. NX does all the rest — throws switches, clears signals, and indicates the train's progress by lights on the board. If the best route is not available, NX automatically selects and lines up the next best route.

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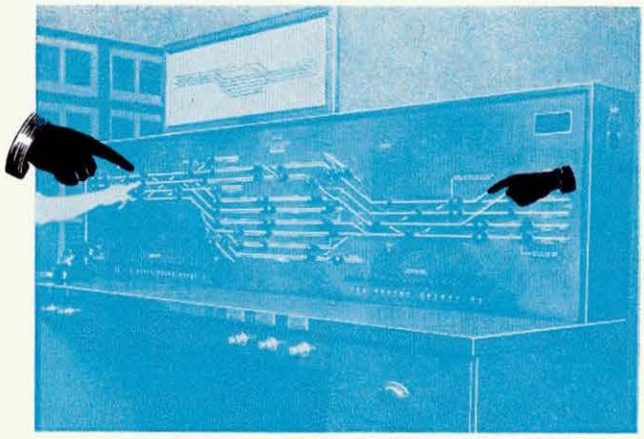

General Railway Signal Company

A-2164

ROCHESTER 2, N.Y. • NEW YORK 17
CHICAGO 3 • ST. LOUIS 1

Freight Operating Statistics of Large Steam Railways—Selected

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Great Lakes Region:													
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Erie	1946	2,242	604,781	638,554	49,580	31,484	69.1	1,946,613	813,984	263	72	57	14.5
	1945	2,243	930,370	991,176	84,817	44,210	63.7	2,938,507	1,252,971	298	33	55	14.2
Grand Trunk Western	1946	972	226,190	230,487	1,769	8,048	69.3	479,867	191,462	66	4	8	10.3
	1945	1,026	290,912	295,788	2,466	9,227	64.4	607,411	261,848	64	1	14	17.7
Lehigh Valley	1946	1,242	256,580	284,962	41,532	12,584	71.1	822,688	404,739	108	25	36	21.3
	1945	1,247	418,976	460,571	50,645	18,477	62.4	1,301,751	613,272	139	17	13	7.7
New York Central	1946	10,328	2,253,174	2,399,716	151,045	97,543	66.7	6,095,059	2,631,778	903	189	351	24.3
	1945	10,331	3,603,689	3,882,685	248,062	136,812	63.4	9,442,017	4,353,289	1,103	29	280	19.8
New York, Chi. & St. L.	1946	1,656	462,658	470,578	6,430	21,854	71.1	1,315,452	559,667	128	34	26	13.8
	1945	1,656	796,055	808,688	11,062	32,102	67.7	2,088,295	944,700	163	14	20	10.2
Pere Marquette	1946	1,915	287,669	297,011	6,656	10,773	71.4	671,205	296,970	124	18	25	15.0
	1945	1,915	491,059	512,949	13,306	17,798	65.7	1,198,815	559,818	142	..	24	14.5
Pitts. & Lake Erie	1946	229	60,444	60,459	105	2,343	66.0	193,731	113,069	22	8	20	40.0
	1945	229	96,544	99,223	210	4,155	65.0	349,141	204,158	30	..	16	34.8
Wabash	1946	2,381	569,896	588,161	13,652	20,577	71.8	1,259,063	525,829	155	19	36	17.1
	1945	2,381	824,009	852,751	18,419	30,023	67.9	1,984,975	900,435	177	..	35	16.5
Central Eastern Region:													
Baltimore & Ohio	1946	6,103	1,617,074	1,980,635	206,302	57,862	67.0	3,891,087	1,834,792	798	62	304	26.1
	1945	6,095	2,525,547	3,119,759	308,576	89,661	64.8	6,476,250	3,254,295	922	3	258	21.8
Central of New Jersey†	1946	649	142,893	166,420	46,571	5,594	68.6	395,035	207,910	101	3	50	32.5
	1945	654	221,228	254,478	53,701	8,045	62.8	575,698	281,038	117	10	24	15.9
Chicago & Eastern Ill.	1946	910	120,411	121,473	2,443	4,112	73.6	252,779	116,469	50	9	20	25.3
	1945	912	296,113	301,000	8,351	8,829	62.6	614,123	284,431	73	..	9	11.0
Elgin, Joliet & Eastern	1946	392	85,625	90,614	2,570	2,644	69.0	193,444	103,219	40	10	19	27.5
	1945	392	129,817	134,678	4,008	3,855	68.8	289,504	157,819	60	..	16	21.1
Long Island	1946	372	27,464	29,544	14,275	365	56.7	25,694	10,974	31	..	3	8.8
	1945	372	35,695	37,103	17,205	365	57.8	24,981	10,440	42	..	6	12.5
Pennsylvania System	1946	10,033	2,965,532	3,425,412	456,666	125,043	68.1	7,920,719	3,567,863	1,707	242	307	13.6
	1945	10,024	4,718,067	5,477,716	709,885	183,079	63.5	13,128,092	6,391,110	2,035	..	196	8.8
Reading	1946	1,361	439,554	486,509	55,019	14,101	67.6	1,044,172	568,730	249	16	62	19.0
	1945	1,365	529,823	593,304	68,127	18,074	64.0	1,350,626	711,225	257	28	52	15.4
Pocahontas Region:													
Chesapeake & Ohio	1946	3,045	718,366	774,273	36,046	33,176	63.5	2,543,019	1,461,889	441	33	65	12.1
	1945	3,037	1,172,306	1,263,688	57,887	55,927	58.0	4,730,373	2,710,443	429	15	85	16.1
Norfolk & Western	1946	2,139	500,414	530,549	36,099	21,455	64.1	1,686,449	897,422	240	84	18	5.3
	1945	2,139	756,940	807,877	59,874	36,146	60.5	3,039,745	1,649,308	267	26	19	6.1
Southern Region:													
Atlantic Coast Line	1946	5,552	1,023,886	1,049,047	7,688	28,076	67.9	1,749,113	764,587	401	16	23	5.2
	1945	5,557	1,201,142	1,216,376	17,753	32,731	65.8	2,132,165	955,810	422	2	29	6.4
Central of Georgia†	1946	1,783	280,087	286,433	5,402	7,154	73.1	444,812	204,197	94	..	8	7.8
	1945	1,783	326,453	333,080	5,489	8,169	73.6	519,193	248,098	96	..	8	7.7
Gulf, Mobile & Ohio	1946	1,931	266,354	324,976	3,287	9,469	74.1	590,808	274,525	101	10	15	11.9
	1945	1,932	324,468	417,485	3,090	12,429	76.3	762,942	358,854	104	4	8	6.9
Illinois Central (incl.	1946	6,601	1,223,281	1,235,104	41,923	47,230	66.8	3,014,261	1,340,507	575	25	104	14.8
Yazoo & Miss. Vy.)	1945	6,605	1,851,296	1,884,790	34,059	71,980	62.8	4,992,146	2,299,692	639	3	64	9.1
Louisville & Nashville	1946	4,750	1,116,131	1,206,988	30,586	30,030	67.7	1,945,657	901,262	388	50	59	11.9
	1945	4,746	1,755,231	1,897,675	50,340	46,958	64.6	3,337,735	1,656,366	419	5	57	11.9
Seaboard Air Line*	1946	4,139	889,507	945,006	12,422	25,795	68.3	1,658,431	690,689	276	..	62	18.3
	1945	4,157	994,767	1,057,622	15,369	28,124	68.1	1,830,003	809,782	266	..	66	19.9
Southern	1946	6,450	1,713,820	1,745,791	30,012	43,508	71.4	2,567,133	1,119,544	593	5	132	18.1
	1945	6,471	2,120,427	2,155,411	37,988	50,313	71.6	3,112,156	1,441,442	603	..	106	15.0
Northwestern Region:													
Chi. & North Western	1946	8,062	868,893	903,155	19,042	27,828	66.7	1,813,266	793,098	362	24	126	24.6
	1945	8,062	1,118,993	1,168,767	25,756	36,050	68.8	2,441,442	1,135,575	357	8	107	22.7
Chicago Great Western	1946	1,445	224,335	227,860	11,071	7,119	71.0	452,473	197,893	65	..	14	17.7
	1945	1,445	282,733	290,246	9,132	9,282	74.7	592,677	275,921	69	..	10	12.7
Chi., Milw., St. P. & Pac.	1946	10,725	1,192,349	1,258,628	49,161	40,179	66.9	2,639,080	1,183,459	438	96	71	11.7
	1945	10,714	1,574,904	1,682,487	78,670	55,742	66.5	3,820,116	1,814,734	503	42	63	10.4
Chi., St. P., Minneap. & Om.	1946	1,606	175,924	187,408	10,638	4,665	71.1	301,825	135,868	82	1	41	33.1
	1945	1,606	204,060	220,066	13,544	5,545	69.3	377,558	175,767	89	18	22	17.1
Duluth, Missabe & I. R.	1946	546	88,358	88,665	459	4,680	50.8	434,961	264,692	44	..	4	8.3
	1945	546	170,164	171,026	1,672	9,305	51.0	861,634	525,605	51	..	3	5.6
Great Northern	1946	8,236	980,809	981,050	48,938	36,325	64.7	2,606,022	1,252,089	344	73	79	15.9
	1945	8,276	1,288,238	1,288,509	69,893	54,274	66.8	3,933,996	1,994,438	397	15	63	13.3
Min., St. P. & S. St. M.	1946	4,181	429,581	441,976	8,915	12,058	65.2	811,745	375,246	130	..	13	9.1
	1945	4,259	469,164	483,582	7,677	12,663	63.5	898,057	432,433	127	3	13	9.1
Northern Pacific	1946	6,576	752,854	791,475	49,188	27,889	70.1	1,921,849	929,964	319	57	63	14.4
	1945	6,577	984,901	1,049,782	74,598	43,139	72.7	2,877,248	1,452,896	372	15	62	13.8
Central Western Region:													
Alton†	1946	915	163,349	165,510	575	4,853	69.2	311,637	147,636	58	22	16	16.7
	1945	915	290,230	310,131	1,041	8,222	70.3	541,756	256,240	72	..	8	10.0
Atch., Top. & S. F. (incl.	1946	13,085	2,644,802	2,804,936	166,329	95,394	65.8	6,286,973	2,393,977	749	80	152	15.5
G. C. & S. F. & P. & S. F.)	1945	13,115	3,956,561	4,180,500	214,121	146,624	65.3	9,810,026	4,084,102	906	2	101	10.0
Chi., Burl. & Quincy	1946	8,666	1,024,854	1,066,233	37,693	40,033	68.3	2,609,863	1,191,972	396	80	72	13.1
	1945	8,789	1,413,645	1,490,038	44,685	55,459	69.1	3,792,938	1,844,909	412	..	92	18.3
Chi., Rock I. & Pac.†	1946	7,615	1,032,706	1,062,000	17,553	33,099	65.9	2,147,735	920,040	326	35	99	21.5
	1945	7,716	1,518,334	1,597,908	23,308	46,360	67.4	3,077,333	1,405,516	379	..	80	17.4
Denver & R. G. Wn.†	1946	2,386	282,232	306,740	35,614	8,519	77.2	523,473	251,717	123	39	39	19.4
	1945	2,386	518,227	589,012	112,887	19,172	80.8	1,189,697	607,426	177	11	35	15.7
Southern Pacific	1946	8,172	2,126,460	2,390,018	395,386	82,292	66.2	5,438,430	2,140,059	788	3	170	17.7
	1945	8,179	2,396,821	2,736,579	397,298	104,880	69.3	6,815,459	2,859,274	775	1	169	17.9
Union Pacific	1946	9,775	1,968,137	2,063,557	160,358	75,726	68.3	4,807,982	1,972,086	571	188	135	15.1
	1945	9,781	3,281,547	3,485,647	294,501	126,303	72.0	8,083,267	3,552,389	823	28	61	6.7
Southwestern Region:													
Mo.-Kans.-Texas Lines	1946	3,241	490,825	505,022	9,129	13,644	67.0	864,204	373,660	110	..	54	32.9
	1945	3,241	885,116	920,556	16,076	25,226	61.4	1,743,592	785,193	149	..	18	10.8
Missouri Pacific†	1946	7,053	1,254,938	1,317,491	31,492	43,684	65.6	2,849,304	1,198,272	428	..	85	16.6
	1945	7,056	1,820,465	1,924,931	49,446	66,370	65.5	4,546,009	2,082,459	464	..	72	13.4
Texas & Pacific	1946	1,871	361,645	361,645	8,921	11,730	67.3	768,617	318,639	115	35	9	5.7
	1945	1,882	480,559	480,559	6,597	17,166	70.3	1,079,483	459,277	123	13	16	10.5
St. Louis-San Francisco†	1946	4,615	808,278	833,715	9,791	20,277	65.8	1,316,493	568,907	303	9	29	8.5
	1945	4,615	1,167,089	1,241,566	17,848	29,745	68.0	1,979,041	916,906	311	..	30	8.8
St. Louis-San Fran. & Texas	1946	156	29,996	32,148	26	562	62.7	39,295	16,539	8	..	1	11.1
	1945	161	37,714	39,900	....	642	68.5	41,861	18,118	9	..	..	....
St. Louis Southw. Lines†	1946	1,568	326,404	329,542	4,570	13,206	73.6	755,779	337,844	83	34	20	14.6
	1945	1,600	546,462	553,796	7,337	20,211	67.1	1,281,467	572,834	114	5	20	14.4
Texas & New Orleans	1946	4,321	897,237	899,183	17,252	24,901	70.4	1,554,351	651,329	238	..	28	10.5
	1945	4,325	1,308,705	1,312,938	46,512	34,294	65.0	2,275,025	970,895	265	..	21	7.3

* Report of receivers. † Report of trustee or trustees.

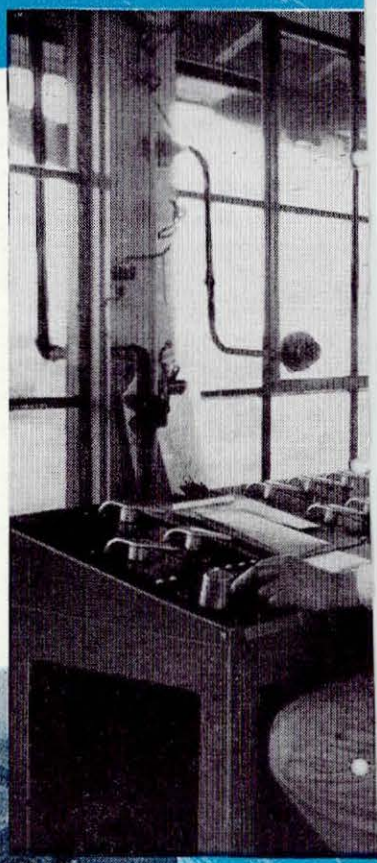
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Items for the Month of May 1946 Compared with May 1945

Region, road, and year	Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl.locos. and tenders	G.t.m. per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:													
Boston & Albany 1946	356	5,435	5,791	0.3	22,232	1,444	568	23.5	411	26.3	6,616	196	66.5
1945	197	5,665	5,862	0.6	24,630	1,607	658	27.4	638	38.2	10,798	182	93.6
Boston & Maine 1946	2,096	10,050	12,146	2.0	33,978	2,304	985	24.8	684	37.5	4,935	104	73.7
1945	1,878	11,086	12,964	2.3	39,336	2,463	1,100	28.2	969	49.7	6,960	105	79.8
N. Y., New H. & Hartf.† 1946	2,583	18,007	20,590	4.1	30,782	2,265	957	23.7	523	30.4	6,004	90	69.3
1945	1,999	19,515	21,514	4.2	33,526	2,362	1,038	26.0	700	38.0	8,577	92	88.1
Great Lakes Region:													
Delaware & Hudson 1946	3,858	4,783	8,641	4.8	48,133	2,836	1,440	33.0	1,140	48.6	11,834	107	42.9
1945	3,846	6,034	9,880	3.7	52,702	3,099	1,609	35.8	1,480	60.7	17,833	105	63.1
Del., Lack. & Western 1946	6,178	13,321	19,499	4.8	42,281	2,985	1,336	28.0	607	30.6	11,241	111	70.8
1945	5,912	11,987	17,899	2.6	44,158	2,818	1,311	30.6	854	40.7	16,657	117	84.0
Erie 1946	10,365	24,376	34,741	3.2	51,476	3,246	1,357	25.9	813	45.5	11,712	100	62.7
1945	10,033	28,242	38,275	3.4	52,934	3,176	1,354	28.3	1,075	59.6	18,020	95	96.3
Grand Trunk Western 1946	4,226	9,287	13,513	8.0	42,754	2,130	850	23.8	484	29.3	6,354	87	105.5
1945	2,363	8,594	10,957	4.3	42,322	2,104	907	28.4	764	41.8	8,233	82	130.3
Lehigh Valley 1946	6,607	10,421	17,028	8.9	52,401	3,290	1,619	32.2	731	32.0	10,512	98	66.1
1945	7,345	17,635	24,980	2.5	53,916	3,190	1,503	33.2	738	35.6	15,864	102	102.7
New York Central 1946	61,255	94,353	155,608	4.9	41,761	2,747	1,186	27.0	569	31.6	8,220	103	64.9
1945	43,665	96,598	140,263	4.1	41,998	2,652	1,223	31.8	973	48.3	13,593	103	104.7
New York, Chi. & St. L. 1946	3,303	11,949	15,252	3.6	52,421	2,861	1,217	25.6	1,238	68.0	10,902	78	87.7
1945	1,824	14,401	16,225	2.4	49,273	2,632	1,191	29.4	1,802	90.4	18,402	87	141.4
Pere Marquette 1946	5,214	9,985	15,199	5.0	38,471	2,351	1,040	27.6	655	33.3	5,002	89	64.3
1945	3,051	11,003	14,054	2.4	42,596	2,467	1,152	31.5	1,331	64.4	9,430	89	108.7
Pitts. & Lake Erie 1946	7,160	9,030	16,190	5.5	47,788	3,219	1,879	48.3	246	7.7	15,927	96	43.0
1945	3,844	10,434	14,278	5.6	50,309	3,619	2,116	49.1	460	14.4	28,759	96	74.7
Wabash 1946	6,922	12,789	19,711	3.5	44,716	2,234	933	25.6	858	46.8	7,124	110	96.4
1945	5,070	14,257	19,327	3.5	44,782	2,433	1,104	30.0	1,497	73.5	12,199	108	137.8
Central Eastern Region:													
Baltimore & Ohio 1946	42,021	46,982	89,003	6.3	32,158	2,467	1,163	31.7	645	30.4	9,698	141	62.5
1945	37,918	48,906	86,824	4.9	32,359	2,628	1,320	36.3	1,163	49.4	17,224	143	96.7
Central of New Jersey† 1946	5,480	10,287	15,767	8.5	30,245	2,887	1,519	37.2	413	16.2	10,334	111	58.8
1945	4,312	14,479	18,791	5.3	32,035	2,727	1,331	34.9	441	20.1	13,862	125	83.1
Chicago & Eastern Ill. 1946	3,240	3,907	7,147	5.9	33,999	2,128	980	28.3	543	26.0	4,129	118	53.4
1945	2,453	4,846	7,299	6.0	38,005	2,142	992	32.2	1,326	65.8	10,061	113	129.7
Elgin, Joliet & Eastern 1946	7,749	8,469	16,218	3.3	19,963	2,434	1,299	39.0	230	8.5	8,494	136	59.7
1945	8,265	6,604	14,869	2.9	18,806	2,362	1,288	40.9	353	12.5	12,987	139	84.0
Long Island 1946	51	4,392	4,443	.5	7,169	957	409	30.1	72	4.2	952	361	53.3
1945	36	5,065	5,101	.4	5,896	715	299	28.6	56	3.4	905	340	49.9
Pennsylvania System 1946	141,185	106,055	247,240	7.8	39,447	2,746	1,237	28.5	466	24.0	11,471	126	60.2
1945	112,450	122,181	234,631	4.9	39,228	2,876	1,400	34.9	852	38.5	20,567	116	96.5
Reading 1946	15,467	18,165	33,632	2.6	28,331	2,384	1,299	40.3	501	18.4	13,480	118	63.1
1945	11,362	23,911	35,273	2.8	34,559	2,553	1,344	39.4	624	24.8	16,808	109	71.1
Pocahontas Region:													
Chesapeake & Ohio 1946	43,402	19,891	63,293	2.1	54,273	3,615	2,078	44.1	718	25.7	15,487	77	52.5
1945	37,388	19,427	56,815	1.8	58,941	4,092	2,341	48.5	1,558	55.4	28,789	74	86.4
Norfolk & Western 1946	31,715	6,284	37,999	2.5	54,442	3,440	1,831	41.8	670	25.0	13,534	98	58.0
1945	30,142	7,531	37,673	2.3	63,902	4,052	2,198	45.6	1,426	51.6	24,873	86	95.4
Southern Region:													
Atlantic Coast Line 1946	9,476	22,707	32,183	2.3	27,095	1,734	758	27.2	754	40.8	4,442	116	82.2
1945	7,766	18,923	26,689	1.8	30,145	1,786	801	29.2	1,081	56.3	5,548	116	92.6
Central of Georgia† 1946	2,056	6,227	8,283	1.8	29,619	1,591	730	28.5	807	38.7	3,694	134	99.0
1945	1,974	7,591	9,565	1.3	29,757	1,596	763	30.4	841	37.6	4,489	134	110.9
Gulf, Mobile & Ohio 1946	2,071	6,055	8,126	2.0	38,964	2,229	1,036	29.0	1,040	48.4	4,586	109	89.8
1945	1,483	7,817	9,300	.8	41,595	2,359	1,110	28.9	1,341	60.8	5,992	109	123.5
Illinois Central (incl. Yazoo & Miss. Vy.) 1946	15,557	36,165	51,722	1.5	41,631	2,534	1,127	28.4	823	43.4	6,551	121	61.9
1945	17,384	40,393	57,777	1.2	44,704	2,761	1,272	31.9	1,259	62.8	11,231	113	89.8
Louisville & Nashville 1946	33,743	17,082	50,825	3.5	27,465	1,743	807	30.0	542	26.7	6,121	124	84.5
1945	28,264	18,247	46,511	5.5	29,870	1,902	944	35.3	1,151	50.5	11,258	126	136.5
Seaboard Air Line* 1946	6,509	18,991	25,500	2.2	33,261	1,927	803	26.8	850	46.5	5,383	121	100.0
1945	5,520	17,312	22,832	1.8	33,125	1,890	836	28.8	1,105	56.3	6,284	121	113.6
Southern 1946	15,896	33,962	49,858	4.9	25,887	1,516	661	25.7	732	39.9	5,599	143	82.2
1945	13,689	31,082	44,771	3.2	25,268	1,483	687	28.6	1,012	49.3	7,185	144	105.0
Northwestern Region:													
Chi. & North Western 1946	21,729	30,427	52,156	4.0	33,400	2,150	940	28.5	496	26.1	3,173	124	63.4
1945	19,134	30,136	49,270	3.8	35,598	2,277	1,059	31.5	749	34.6	4,544	124	88.0
Chicago Great Western 1946	1,283	4,511	5,794	4.8	34,635	2,024	885	27.8	1,110	56.3	4,418	126	101.0
1945	889	4,297	5,186	2.9	36,851	2,105	980	29.7	1,632	73.4	6,160	122	124.9
Chi., Milw., St. P. & Pac. 1946	24,512	31,676	56,188	1.7	36,027	2,236	1,003	29.5	694	35.2	3,560	120	75.1
1945	20,269	33,212	53,481	2.1	39,321	2,444	1,161	32.6	1,139	52.6	5,464	116	100.9
Chi., St. P., Minneap. & Om. 1946	1,086	6,959	8,045	8.2	23,030	1,740	783	29.1	536	25.8	2,729	122	57.1
1945	826	6,419	7,245	8.2	26,622	1,874	872	31.7	821	37.4	3,530	109	61.4
Duluth, Missabe & I. R. 1946	14,750	280	15,030	3.4	87,465	5,062	3,081	56.6	562	19.5	15,638	61	65.1
1945	14,730	454	15,184	2.9	91,226	5,227	3,188	56.5	1,110	38.5	31,053	59	116.8
Great Northern 1946	22,836	21,395	44,231	4.4	42,007	2,686	1,290	34.5	903	40.5	4,904	97	72.5
1945	19,344	25,435	44,779	2.4	48,665	3,078	1,561	36.7	1,569	63.9	7,774	88	97.7
Min., St. P. & S. St. M. 1946	6,450	9,043	15,493	4.4	33,214	1,916	886	31.1	862	42.5	2,895	94	107.5
1945	5,752	7,055	12,807	3.7	34,038	1,932	930	34.1	1,145	52.8	3,275	93	113.6
Northern Pacific 1946	17,458	15,895	33,353	4.9	41,268	2,580	1,248	33.3	861	36.8	4,562	133	67.1
1945	15,060	21,713	36,773	3.5	45,427	2,948	1,488	33.7	1,365	55.7	7,126	122	88.0
Central Western Region:													
Alton† 1946	1,683	5,571	7,254	1.1	42,475	1,921	910	30.4	645	30.7	5,205	103	61.5
1945	1,524	7,339	8,863	4.3	38,880	1,888	893	31.2	959	43.8	9,034	133	135.5
Atch., Top. & S. F. (incl. 1946	41,683	39,392	81,075	4.5	47,381	2,392	911	25.1	973	59.0	5,902	104	102.2
G. C. & S. F. and P. & S. F.) 1945	37,683	64,393	102,076	3.7	44,551	2,496	1,039	27.9	1,361	74.8	10,045	108	147.1
Chi., Burl. & Quincy 1946	18,491	23,303	41,794	3.2	43,001	2,561	1,170	29.8	929	45.7	4,437	105	69.3
1945	16,486	29,724	46,210	2.2	43,368	2,703	1,315	33.3	1,350	58.7	6,771	101	102.6
Chi., Rock I. & Pac.† 1946	12,485	23,812	36,297	4.4	38,276	2,091	896	27.8	849	46.4	3,897	97	80.1
1945	8,670	26,646	35,316	3.7	36,055	2,046	934	30.3	1,303	63.7	5,876	110	118.2
Denver & R. G. Wn.† 1946	7,801	3,471	11,272	5.3	33,906	1,867	898	29.5	693	30.4	3,403	160	57.8
1945	7,564	6,709	14,273	6.3	36,523	2,334	1,192	31.7	1,374	53.7	8,212	162	107.1
Southern Pacific 1946	22,920	48,685	71,605	3.3	39,851	2,585	1,017	26.0	979	56.8	8,448	101	101.1
1945	22,170	63,181	85,351	2.5	39,685	2,864	1,201	27.3	1,125	59.6	11,277	97	114.5
Union Pacific 1946	27,457	28,609	56,066	4.5	50,899	2,475	1,015	26.0	1,120	62.9	6,508	127	81.8
1945	25,323	46,290	71,613	3.5	49,610	2,499	1,098	28.1	1,689	83.5	11,716	122	138.3
Southwestern Region:													
Mo.-Kans.-Texas Lines 1946	1,753	9,653	11,406	.8	34,549	1,775	768	27.4	1,114	60.7	3,719	81	106.5
1945	1,086	10,528	11,614	.2	35,138	1,982	893	31.1	2,150	112.6	7,815	81	189.3
Missouri Pacific† 1946	15,930	26,327	42,257	1.4	41,083	2,280	959	27.4	944	52.5	5,480	105	91.3
1945	11,490	27,746	39,236	2.2	41,515	2,513	1,151	31.4	1,643	79.9	9,520	103	126.8
Texas & Pacific 1946	1,481	6,041	7,522	1.9	42,369	2,149	891	27.2	1,234	67.5	5,494	94	79.6
1945	1,273	8,706	9,979	1.9	40,924	2,258	961	26.8	1,498	79.6	7,872	90	111.2
St. Louis-San Francisco† 1946	6,771	13,388	20,159	1.7	31,971	1,636	707	28.1	941	51.0	3,977	125	83.8
1945	5,726	14,481	20,207	1.9	33,444	1,708	791	30.8	1,415	67.5	6,409	128	122.5
St. Louis-San Fran. & Texas 1946	....	471	471	1.1	24,559	1,312	552	29.4	1,215	65.8	3,420	116	105.3
1945	....	414	414	2.4	20,734	1,119	484	28.2	1,331	68.8	3,630	120	146.1
St. Louis Southw. Lines† 1946	1,251	6,145	7,396	1.5	44,819	2,320	1,037	25.6	1,550	82.3	6,950	79	82.6
1945	854	7,939	8,793	1.2	38,681	2,348	1,050	28.3	1,990	104.6	11,549	78	136.6
Texas & New Orleans 1946	3,865	17,386	21,251	3.6	33,138	1,750	733	26.2	970	52.6	4,862	90	117.9
1945	3,697	21,412	25,109	2.6	31,178	1,756	749	28.3	1,293	70.3	7,241	92	160.3

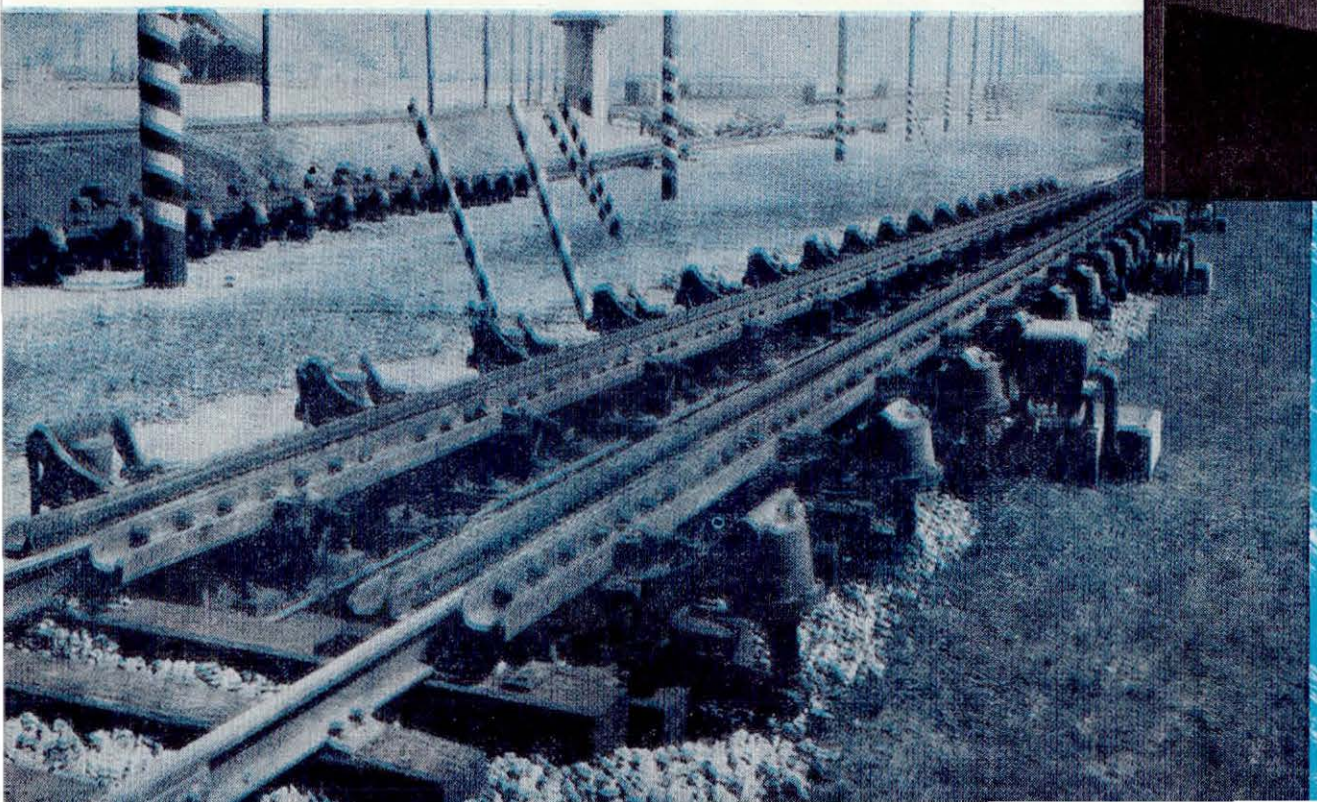
WEATHER

makes no difference in hump yards with "UNION" Car Retarders



Do bad weather and winter conditions defeat your best efforts to classify freight cars with good-weather-speed and meet today's shorter schedules? Does the efficiency of your yard personnel drop with every fall of the barometer? "Union" Car Retarders can minimize those troubles!—while they perform their primary function of facilitating car classification at greatly reduced costs. (Reports show an average saving of 25¢ per car classified).

With the "Union" Car Retarder system, electrically-controlled airbrakes on the tracks control car speeds. Switch machines, too, are operated



pneumatically and controlled electrically. The control machines are located in towers to afford operators views of the cars as they move toward the classification tracks.

Working comfortably and fully protected from the elements, the operator checks his switch list for car weights and destination; positions switch levers accordingly; and governs car speeds through proper selection and application of the instantly available retarding pressures so that cars enter classification tracks at correct coupling speeds. And, this efficient classification of cars may continue day and night, regardless of adverse weather.

Twenty-four installations of "Union" Electro-pneumatic Car Retarders on 14 railroads have demonstrated that uninterrupted car classification in bad weather is a great help in keeping freight traffic moving under conditions which make efficient operations most difficult.

Bulletin 155 tells the complete story. Write for it, or let "Union" engineers explain how these electro-pneumatic car retarders can save time and money in your classification yards—regardless of weather!

UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

Speed the job and cut the cost with "UNION" Car Retarders

1912 as a clerk on the Pennsylvania at New York City, which position he held for four years. Mr. Kenny then became chief clerk and traveling freight agent on the St. Louis Southwestern at New York, prior to entering the army at the time of World War I. Following his army service, he joined the Great Northern as a stenographer in New York, and in 1920 was advanced to contracting freight agent. In 1936, he was promoted to export and import agent, and a year later went to Cincinnati, Ohio, as general agent, which position he held until his recent promotion.

J. M. Vonau, Jr., whose appointment as general passenger agent in charge of rates and divisions of the Southern Pacific, with headquarters at San Francisco, was reported in the *Railway Age* of September 7, was born at New Orleans, La., on September 28, 1901, and entered railroad work there in 1917 as an office boy in the passenger traffic department of the Texas & New

J. M. Vonau, Jr.

Orleans (part of the Southern Pacific). Following advancement to various positions at New Orleans, Mr. Vonau was transferred to Houston, Tex., as chief rate clerk in the road's passenger department. In 1939, he was promoted to assistant general passenger agent, rates and tariffs, and in 1943 was appointed chairman of the Southwestern Passenger Association, which position he held until his recent appointment.

ENGINEERING & SIGNALING

G. S. Turner, division engineer of the Denver & Rio Grande Western at Pueblo, Colo., has been appointed chief engineer of the Denver & Salt Lake, with headquarters at Denver, Colo.

George E. Smith, assistant engineer of the Canadian National, has been named engineer, right of way, of the Atlantic region of the C. N. R., with headquarters at Moncton, N. B., succeeding **Robert H. Emmerson,** who retired on September 1 after 46 years' service.

MECHANICAL

C. H. Dick has been promoted to general master mechanic of the Missouri-Kansas-Texas with headquarters at Denison, Tex.

E. R. Hanna, master mechanic of the Missouri Pacific, with headquarters at Nevada, Mo., has returned to that position following a sick leave, replacing **J. Walker,** assigned to other duties.

H. S. Keppelman has been appointed superintendent car department of the Reading with headquarters at Reading, Pa., succeeding **H. F. Lyons,** who has been assigned to other duties.

A. R. Snyder, superintendent motive power and machinery of the Union Pacific, with headquarters at Omaha, Neb., has been transferred to Cheyenne, Wyo. **L. L. Hoeffel,** superintendent motive power and machinery, with headquarters at Pocatello, Idaho, has been transferred to Salt Lake City, Utah.

PURCHASES AND STORES

C. E. Buckley has been promoted to general storekeeper of the Missouri-Kansas-Texas, with headquarters at Parsons, Kan., succeeding **H. J. Blum,** who has retired. **C. E. Reasoner** has been advanced to assistant general storekeeper, with headquarters at Denison, Tex., succeeding **N. C. Galleher,** who has retired.

Frank Stearns Austin, whose appointment as manager of purchases and stores of the New York Central, with headquarters at New York, was announced in the August 31 *Railway Age,* was born at Lynn, Mass., on November 6, 1886, and attended Dartmouth College and Thayer School of Civil Engineering, receiving his B. S. degree in 1909. He entered railroading the same year as a chainman on the Boston & Albany (operated by the New York Central), and after serving as rodman and

Frank Stearns Austin

transitman at Boston, Mass., and assistant supervisor of track at Pittsfield, Mass., he was advanced to supervisor of track at Worcester, Mass., in October, 1913. He returned to Boston in the same capacity in July, 1916, and was appointed general storekeeper at Springfield, Mass., the following year. In July, 1927, Mr. Austin was named purchasing agent at Boston, where he remained until his appointment as assistant purchasing agent of the New York Central in March, 1935, at New York. He became purchasing agent there in August, 1940, and was appointed general purchasing agent of the system in December, 1944, holding that post until his recent appointment.

SPECIAL

D. R. Culver has been promoted to acting superintendent of car service of the **Pullman Company,** succeeding **Bert E. Dewey. F. O. Marshall** has been advanced to chief engineer, succeeding **Peter Parke.** The retirements of Mr. Dewey and Mr. Parke were reported in the *Railway Age* of September 7. **Fred T. Wood** has been appointed general claim agent. The headquarters of each of these men is at Chicago.

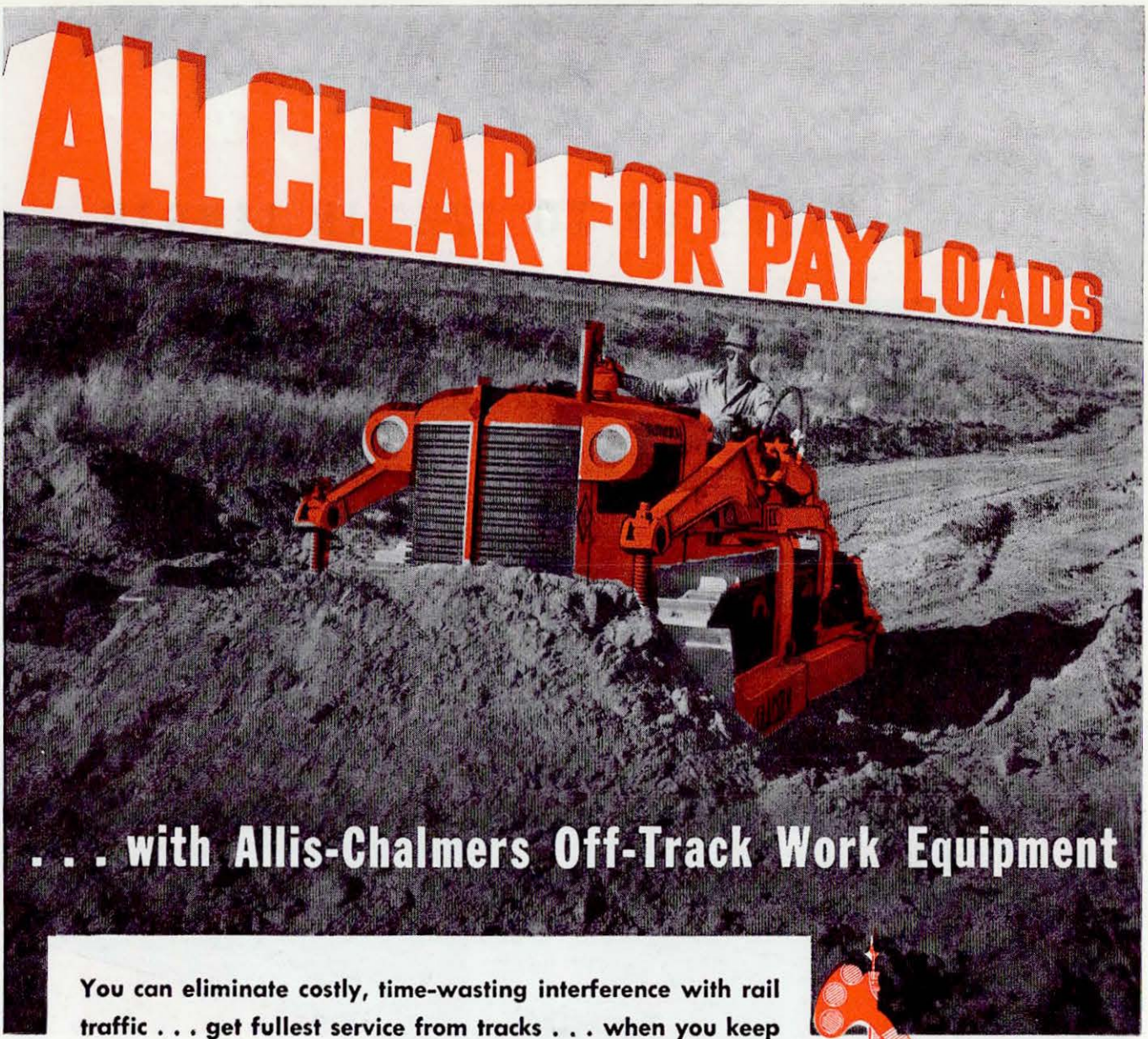
D. G. Phillips, whose retirement as superintendent of safety of the Wabash, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of September 14, was born on August 11, 1879, at Tonganoxie, Kan., and received his higher education at Kansas State university, from which he graduated in 1900. He began his railroad career on the Wabash in 1904 as a locomotive fireman at Kansas City, Mo. In 1915 he was advanced to district claim agent at Moberly, Mo., and in 1920 was promoted to superintendent of safety. During World War I, Mr. Phillips was a member of the 60th Infantry overseas, and was promoted to captain on the Argonne battlefield.

OBITUARY

Rudolph S. Voigt, assistant passenger traffic manager of the Atlantic Coast Line, with headquarters at New York, died after a short illness at his home in Garden City, N. Y., on September 12. Mr. Voigt was born at Chicago on November 26, 1894, and entered railroading in 1912 with the New York Central. In February, 1924, he joined the Atlantic Coast Line as northwestern passenger agent at Chicago, where he remained until August, 1932, when he became eastern passenger agent of the A. C. L. at New York. He was promoted to general eastern passenger agent there on January 1, 1934, and was transferred to Wilmington, N. C., as general passenger agent in October, 1943. Mr. Voigt returned to New York in October, 1944, as general eastern passenger agent, the position he held at the time of his appointment as assistant passenger traffic manager in March, 1945.

Richard W. Barrett, who retired as vice-president and general counsel of the Lehigh Valley, with headquarters at New York, on December 31, 1944, died on September 15 at New York. Mr. Barrett, who was born at Hillsboro, Ohio, on July 11, 1872, was graduated from Earlham College, Richmond, Ind., in 1897, and received his LL.B. from the University of Pennsylvania in 1905. He was admitted to the Philadelphia (Pa.) bar in 1905 and the New York bar in 1913. Mr. Barrett began his legal practice as assistant counsel for the Council of Seventy in 1905, and became a lecturer at the Wharton School of Finance, University of Pennsylvania, in 1906. He served as a police magistrate in Philadelphia from 1909 to 1911, when he resigned to become an attorney of the Lehigh Valley. He served as assistant general solicitor from 1913 to 1920, when he became general solicitor; and in 1927 he was named vice-president and general counsel, in which position he remained until his retirement.

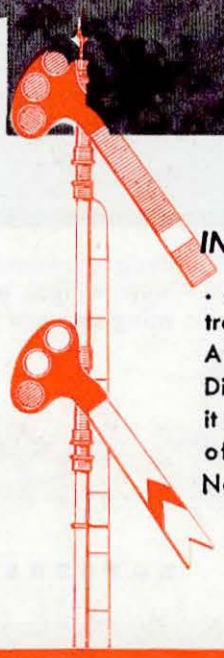
ALL CLEAR FOR PAY LOADS



. . . with Allis-Chalmers Off-Track Work Equipment

You can eliminate costly, time-wasting interference with rail traffic . . . get fullest service from tracks . . . when you keep them clear by using Allis-Chalmers Diesel Tractors and companion off-track work equipment. These flexible, versatile tractors restore traffic quickly after a washin, washout or other traffic interruption . . . they go to work anywhere along track — not just at ends of tie-up. Easily transported by trailer, flat car or under their own power . . . ready for action immediately.

Many railroads have found that Allis-Chalmers Diesel Tractors put in as much as 50 per cent more time than rail-bound equipment, day after day, substantially reducing maintenance costs. They pay big dividends, many ways.



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. . . to either rail traffic or to this Allis-Chalmers Diesel Tractor as it builds up right-of-way on the Northern Pacific.

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4 Models: 60 to 132 Drawbar h.p.
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BODY LEVERS UP TO 52½" IN LENGTH

In connection with new cars now in design, remember that Schaefer can forge body levers up to 52½"—can cut lever weight one-third—show more strength than a solid lever—and, by using our *own* pad structure, take care of all intermediate length variations.

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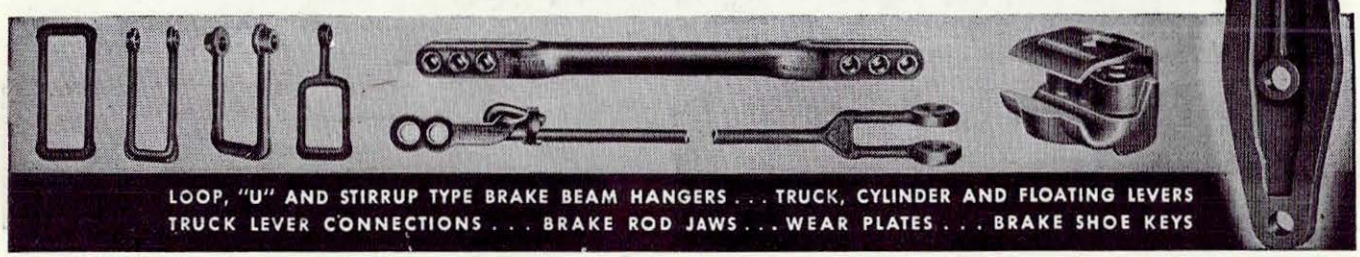

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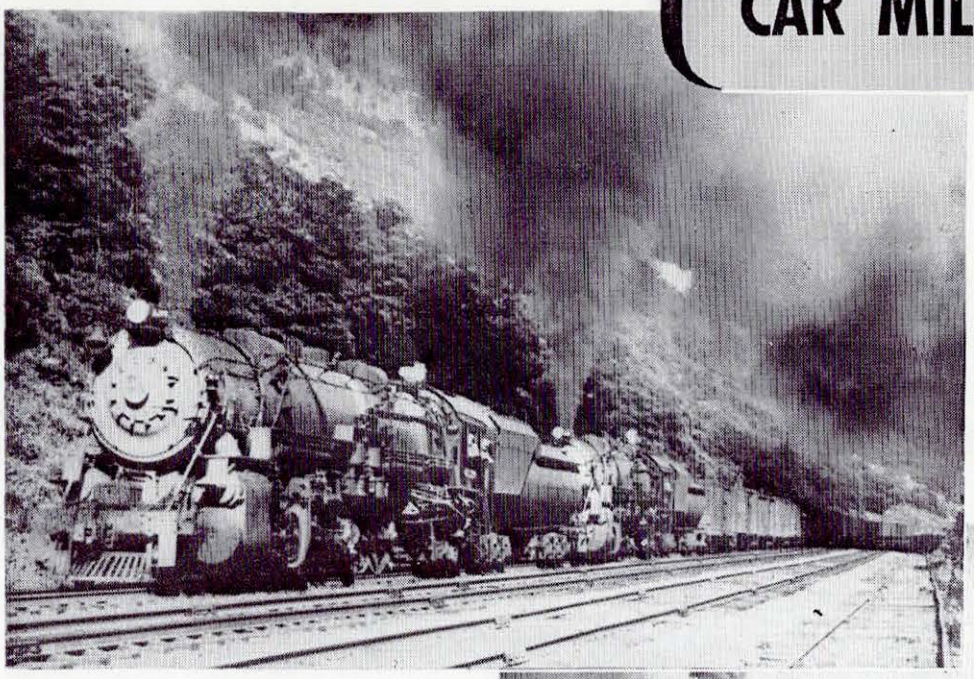
TRUCK LEVER CONNECTIONS . . . BRAKE ROD JAWS . . . WEAR PLATES . . . BRAKE SHOE KEYS

Increased

TRAIN TONNAGE
• TRAIN SPEEDS •
CAR MILES PER DAY



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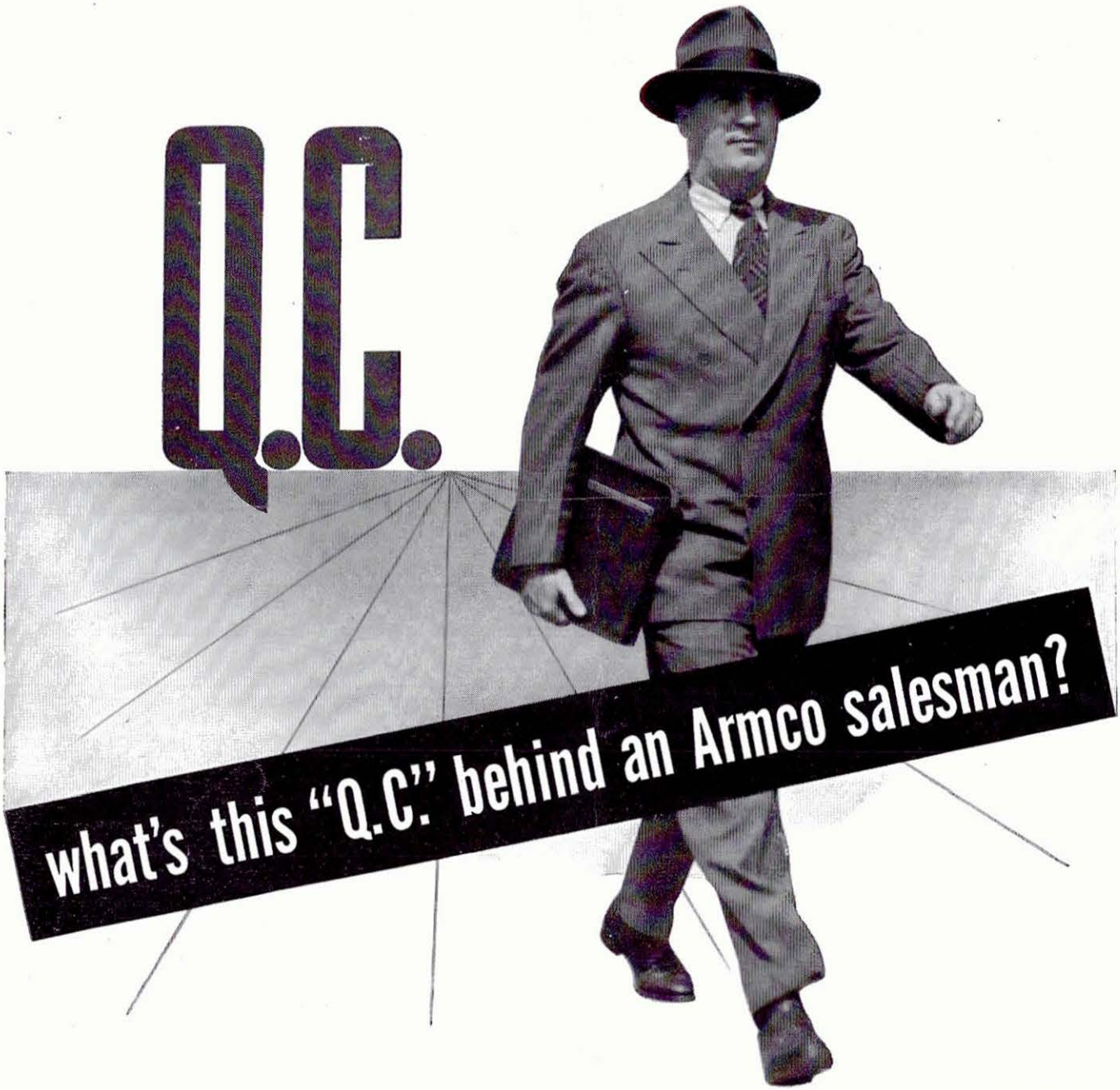
SO GOES the operating story wherever the flexible, smooth-acting "AB" Brake is installed—signal improvement in freight train efficiency all along the line. Calibration for better slack control results in other important advantages—improved protection for lading—substantial savings in maintenance costs and higher freight car availability.

Complete standardization with the "AB" Brake is good business. The greater the application of this modern retardation control—the greater the net revenue from your rolling stock and the better your competitive position in the busy days ahead.

The New York Air Brake Company

420 Lexington Ave., New York 17, N.Y. Plant: Watertown, N.Y.



When the Armco salesman sends your order for special-purpose sheet steels or wheels to the Armco mills, he sets in motion a complete chain of "Quality Controls."

For more than 20 years supervisors at Armco have referred to these special prescriptions as "Q.C." Five years ago this program was supplemented by the use of control charts and statistical analyses.

Summed up this is what Armco "Q.C." means to you: You get the *one right steel* for the equipment you use.

STARTS WITH SALESMAN

The salesman indicates the kind of steel you want—for what purpose it will be used and how it will be fabricated. Frequently he will ask for blueprints and other information about your application.

This is the reason: Back of him metallurgical and operating supervisors are ready with the "follow-through" to help insure Quality Control for the special-purpose sheets and wheels you buy. They weigh and sift requirements . . . determine the correct annealing and the sequence of operations. Previous orders and similar applications are studied too.

All these data go on a routing card. From open-hearth to shipping department, this individual card accompanies your order. It is your assurance of a high "Q.C." in the Armco special-purpose steels that go into the equipment on your roads. The American Rolling Mill Company, 3461 Curtis Street, Middletown, Ohio.

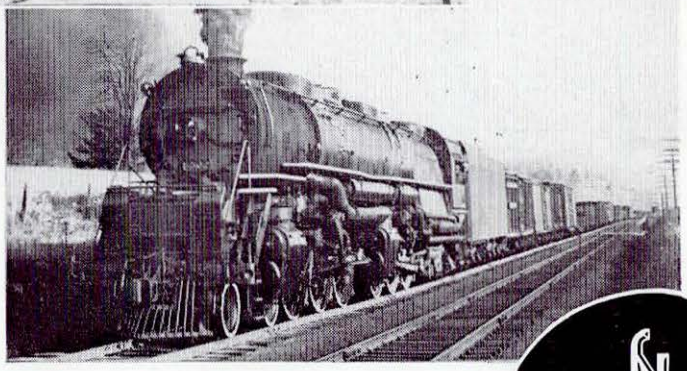
Export: The Armco International Corporation

SPECIAL PURPOSE ARMCO SHEET STEELS

THE AMERICAN ROLLING MILL COMPANY

Increased

TRAIN TONNAGE
•
TRAIN SPEEDS
•
CAR MILES PER DAY



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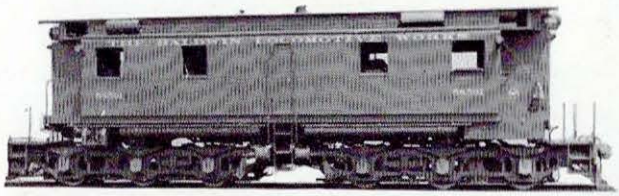
420 Lexington Ave., New York 17, N.Y. **Plant: Watertown, N.Y.**

THE OLD



Baldwin 1000 hp. diesel-electric locomotive built in 1925. The most powerful locomotive of its type built up to that time.

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The rapid advances in the design and construction of diesel-electric locomotives, during the past two decades, make the pioneer diesel as obsolete as the steam locomotive of a century ago.

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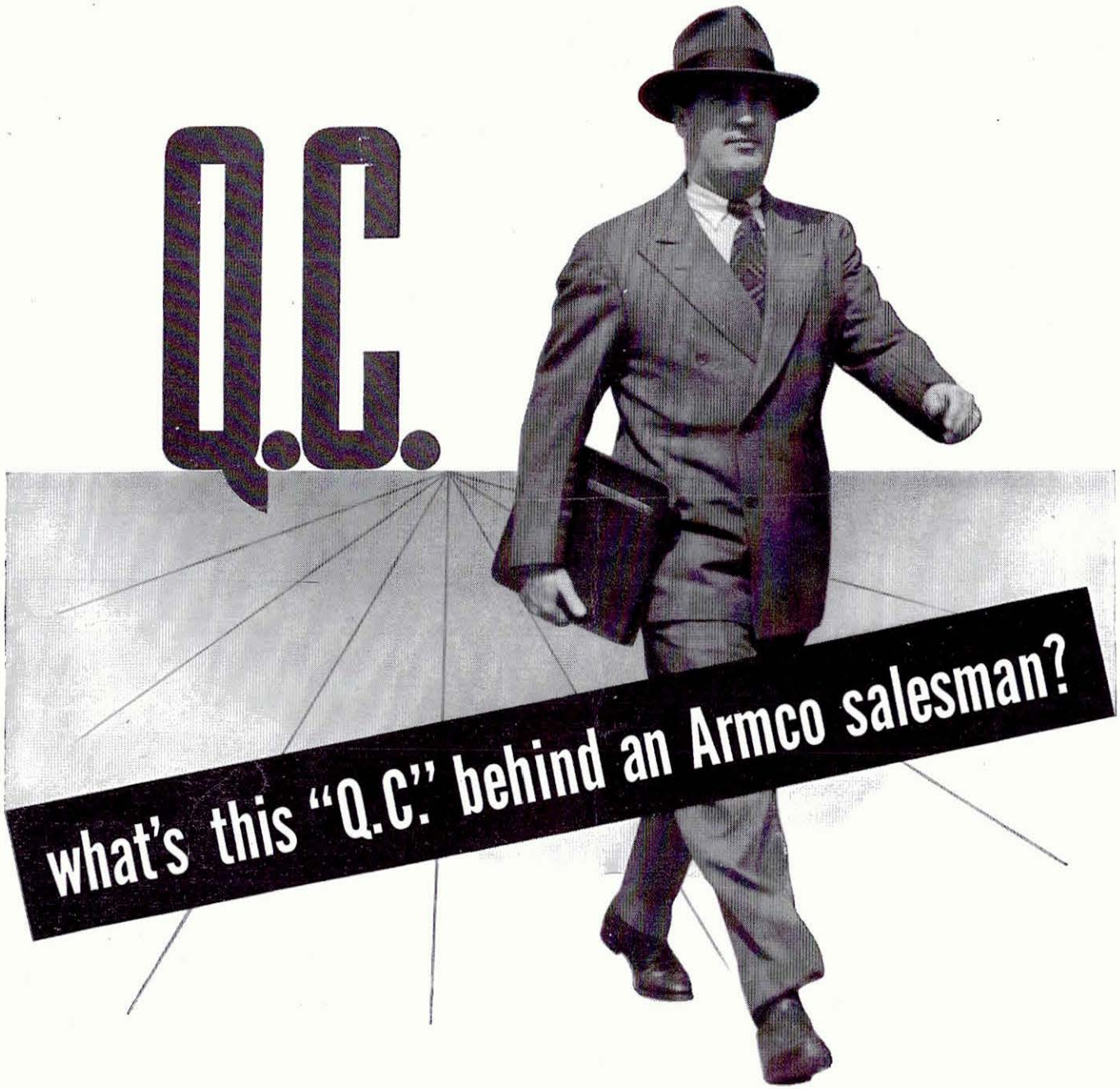

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This is the reason: Back of him metallurgical and operating supervisors are ready with the "follow-through" to help insure Quality Control for the special-purpose sheets and wheels you buy. They weigh and sift requirements . . . determine the correct annealing and the sequence of operations. Previous orders and similar applications are studied too.

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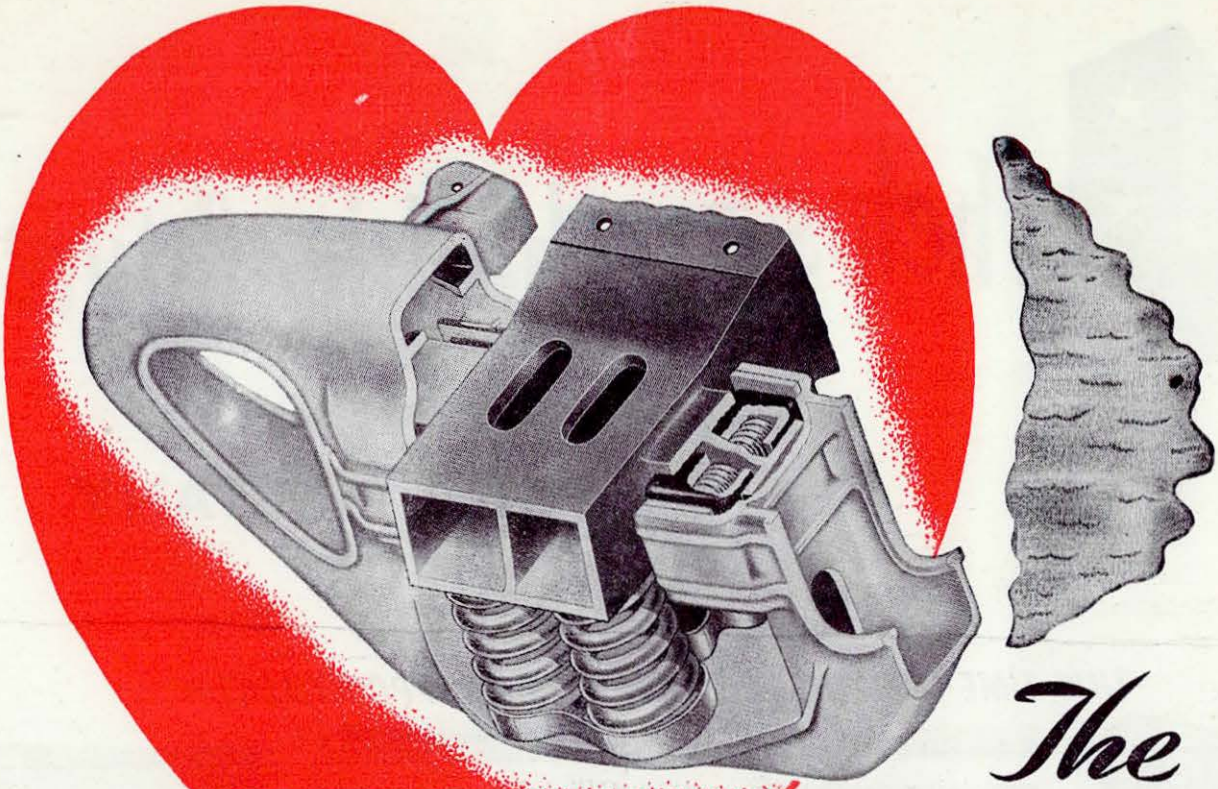
THE AMERICAN ROLLING MILL COMPANY



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Simple, trouble-free design based on time-tested railroad principles—no costly, hard-to-maintain attachments.

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When you use Recordak in waybilling ...everybody does a better job

YARD CLERKS

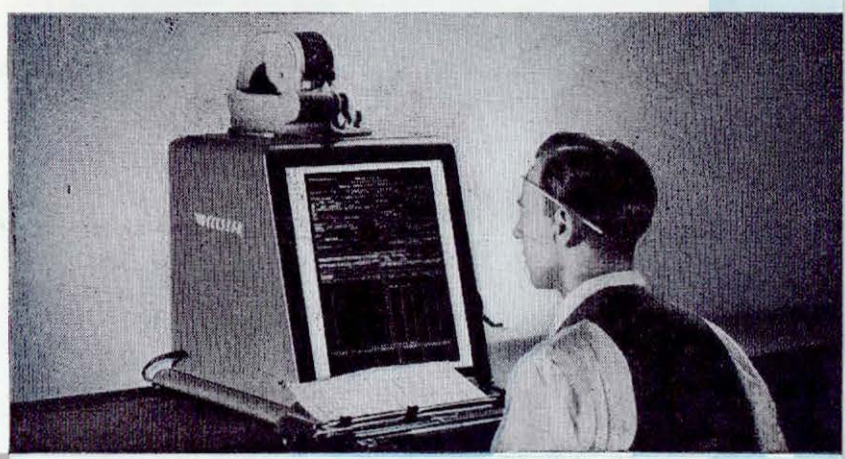
. . . because they can *microfilm* each waybill in a fraction of a second . . . can make records that are photographically complete reproductions of the original waybill.

TYPISTS

. . . because they can work unhurriedly from these microfilmed records . . . can prepare complete, accurate reports for the traffic and accounting departments.

TRAFFIC MEN . . . AUDITORS

. . . because traffic men can get reports that give them *all* the information needed to check business. Because auditors can get interchange reports that are similarly helpful in figuring correct sharing of revenue with connecting lines.



Add to these benefits: neater records...fewer accounting adjustments...savings in time and stationery...and you begin to realize what Recordak means to railroads and other businesses. You can get a more complete picture by reading "50 Billion Records Can't Be Wrong." Write for this new book. It's free. Recordak Corporation, Subsidiary of Eastman Kodak Company, 350 Madison Ave., New York 17, N. Y.

FREE—JUST MAIL THIS COUPON

Recordak Corporation
350 Madison Avenue, New York 17, N. Y.

Please send your new book on Recordak, "50 Billion Records Can't Be Wrong."

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(Subsidiary of Eastman Kodak Company)

originator of modern microfilming —and its application to railroading

RAILROADS USE BLAW-KNOX BUCKETS

. . . for bulk transfers at docks and terminals, coaling, ballast cleaning, ditching, hard digging, and ash handling.

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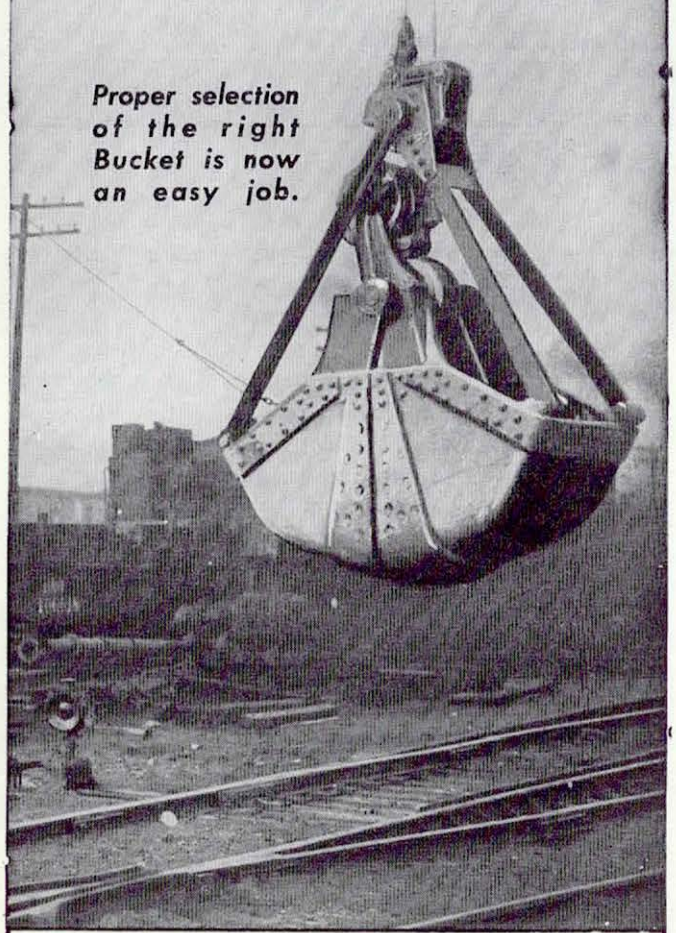

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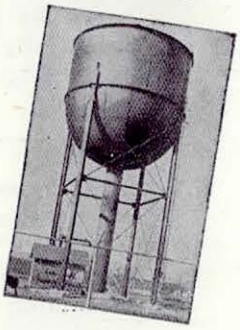

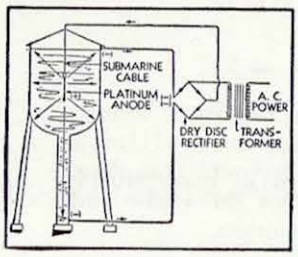

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A DIVISION OF
THE JOHNSTON & JENNINGS COMPANY
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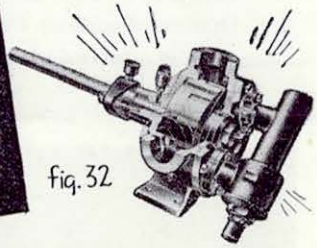
FEATURES THAT MAKE FOR GOOD PUMPING



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VIKING PUMP COMPANY
CEDAR FALLS, IOWA

The Enoz Research Laboratory is Pleased to Announce

2 NEW PRODUCTS

1 A WATER SOLUBLE CONCENTRATE CONTAINING 25% DDT

Provides extreme QUICK KILL-POWER . . . plus RESIDUAL EFFECTIVITY . . . plus GREAT ECONOMY. To use, simply mix with water! Recommended for coverage of large surface areas.

2 A RESIDUAL INSECTICIDE CONTAINING 10% DDT

Provides extreme QUICK KILL-POWER for a wide variety of insects . . . plus LONG-LASTING RESIDUAL PROPERTIES . . . plus ECONOMY. Especially compounded from an oil base and recommended wherever long lasting residual effectivity is required.

SEND TODAY FOR FACTS AND PRICES

In the development of these outstanding DDT Products, Enoz Research chemists have succeeded in providing industrial users with two completely new insecticides that combine all the desirable qualities of DDT with those tested quick-acting compounds for which the name Enoz has been famous for half a century. . These new DDT Products will supplement the regular line of world-famous Enoz Insecticides.

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BY_____

ADDRESS_____

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KIND OF BUSINESS_____

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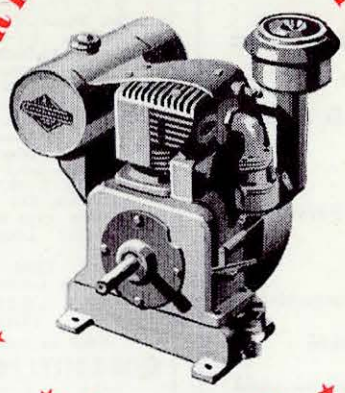

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the "Key"

TO LONG DEPENDABLE PERFORMANCE

The successful operation of any gasoline powered appliance, farm machine or industrial equipment depends on good engine performance day after day. The proved performance record of over 2½ Million Briggs & Stratton *air-cooled* engines, built during the past 26 years, is the reason why users, dealers and manufacturers have made Briggs & Stratton powered equipment their *first choice* — and have established Briggs & Stratton engines everywhere as the Right Power for hundreds of applications.

Be assured of years of dependable, trouble-free performance by waiting until you can have equipment powered by Briggs & Stratton engines. You will not have to wait very long — because deliveries are improving with the increased production now flowing out of our factories.

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Milwaukee 1, Wisconsin, U. S. A.

4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES

Air-Cooled Power

GET TOGETHER DEPARTMENT

Educational Services for RAILROAD MEN

Our New Service on Diesel Locomotive Operation is highly recommended for Engineers and Firemen

The Railway Educational Bureau

Omaha 2, Nebraska

LOCOMOTIVES

2—44-Ton, Diesel-Electric, 300 H.P. Tractive Effort 26,100 lbs. Standard Gauge.
1—38-Ton, 0-4-0 Coal Fired Steam, 36-Inch Gauge.
2—85-Ton Electric Industrial 600 v. D.C., General Electric B + B — 150/150
2—100-Ton 0-8-0 Coal Fired Steam Switcher, I.C.C. Condition, Standard Gauge.
4—140 Ton 2-8-2 steam locomotives, T/E 48,570 lbs. I.C.C. condition. Oil fired.
1—15 Ton, type 0-400 Plymouth Gasoline Locomotive, New 1943
1—8-Ton, Type 0-4-0, Vulcan Gasoline Locomotive.

OTHER LOCOMOTIVES TOO!

Send us your Inquiry

IRON & STEEL PRODUCTS, Inc.

41 years' experience

13486 S. BRAINARD AVE.
CHICAGO 33, ILLINOIS

"ANYTHING containing IRON or STEEL"

FREIGHT CARS

IMMEDIATE SHIPMENT

3—Gondola, All Steel, 57½-Ton.
28—Gondola, All Steel, 50-Ton.
75—Hopper, Twin, All Steel, 50-Ton.
1—Hopper, Side Discharge, All Steel, 50-Ton.
68—Hopper, Side Discharge, All Steel, 70-Ton.
7—Box, 50-Ton, 50-Ft., Automobile, All Steel.
24—Box, 40-Ton, 50-Ft., Single Sheathed.
9—Box, 40-Ton, 40-Ft., Single Sheathed.
9—Caboose, 8-Wheel, Steel Underframe.
48—Tank, 8,000 Gal. Capacity, Coiled and Non-Coiled, Class II and III.
41—Flat Cars, 50-Ton, 43-Ft.
6—Flat Cars, 50-Ton, 40-Ft.
6—Dump, 20 Cu. Yd., Automatic Air, K & J.
51—Tank, 8,000 Gal., Class IV.

IRON & STEEL PRODUCTS, Inc.

41 years' experience

13486 S. BRAINARD AVE.
CHICAGO 33, ILLINOIS

"ANYTHING containing IRON or STEEL"

FOR SALE

One Jackson Electric Tie Tamping Outfit (Type W-S-4) 1-3 phase, 110 volt, 60-70 cycle generator driven by 1 Wisconsin 5 H.P., 4 cycle single cylinder gasoline engine mounted on wheel barrow type base with twin pneumatic tired wheels; 4 Jackson tampers complete with 36 feet of cable and rock blades. Miscellaneous parts included are 10 tips for rock blade, 2 blade reinforcing plates and 1 piston and connecting rod for gasoline engine. Outfit completely overhauled in Fall of 1945 and not used since. In first-class condition. For price and further details write R. F. Maguire, Purchasing Agent, Philadelphia, Bethlehem and New England Railroad Company, Bethlehem, Pa.

SPECIAL OFFERING

Immediate Delivery

42—50-Ton, 40-Ft., All-Steel Gondola Cars. Built 1919-1921, some equipped with Type "A B" Air Brakes.
100—50-Ton, All-Steel Twin Hopper Cars.
These cars just released from revenue service.

IRON & STEEL PRODUCTS, Inc.

41 YEARS EXPERIENCE

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FOR SALE

NEW RAILROAD TRACK BOLTS
also
GOOD USED TIE PLATES FOR 75-90 LB. RAILS

Available for immediate delivery
Write or wire

Sonken-Galamba Corp.
2nd & Riverview, Kansas City 18, Kans.

GAS ELECTRIC RAIL MOTOR CARS

Combination baggage and mail, 300 HP engines convertible to distillate or can be replaced by Diesel. Excellent operating condition.

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POSITION WANTED

Permanent sales engineering position with railway supply concern located in or near New York City, by young man formerly with large eastern railroad, with fifteen years experience in freight and passenger car design. Address Box 832, Railway Age, 30 Church St., New York 7, N. Y.

WANTED

50 or any part 20 or 30 Cu. Yd. Capacity Automatic Air Dump Cars, lift or drop doors, standard gauge, in any state of repair. U. S. Appliances. Address Box 835, Railway Age, 30 Church St., New York 7, N. Y.

USE SPACE HERE

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(A) Preferably experienced in Diesel Engine Parts and Erection to be employed by a large, long established company.
(B) Give complete personal details, education, and work experience in your letter of application. Address Box 831, Railway Age, 30 Church St., New York 7, N. Y.

TAKE ADVANTAGE OF SPACE IN THE GET-TOGETHER DEPARTMENT

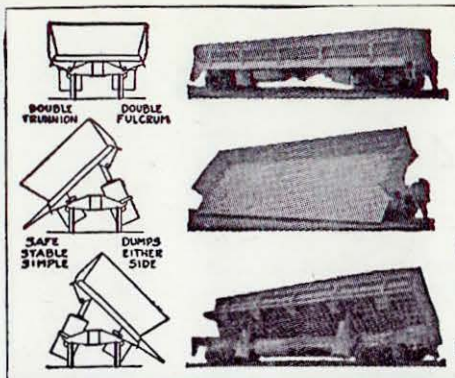
BUY VICTORY BONDS TO FINISH THE JOB

Position Open

Civil Engineer with railroad maintenance of way experience, short line railroad. Box 1409, Mobile, Alabama.

HELP WANTED

Three Interline Freight Revising Clerks. Reply giving age, education and experience. Address Box 830, Railway Age, 30 Church St., New York 7, N. Y.



AIR DUMP CARS

RAIL CARS
MINE CARS
AND
LOCOMOTIVES
AXLESS TRAINS
COMPLETE
HAULAGE SYSTEMS

DIFFERENTIAL STEEL CAR CO.
FINDLAY, OHIO

INCREASED PASSENGER COMFORT

Steam Couplers
A. R. A. STANDARD
Flexible Conduits
REPLACES RUBBER HOSE
Vapor Systems
THERMOSTATIC CONTROL
Air Conditioning Controls

WITH
VAPOR
ENGINEERED
PRODUCTS

BE SURE IT'S GENUINE VAPOR ENGINEERED
VAPOR SYSTEM

VAPOR CAR HEATING CO. INC.
RAILWAY EXCHANGE, CHICAGO, ILL.

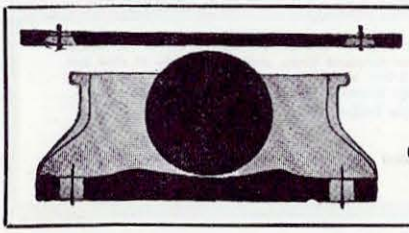
RAILROAD EQUIPMENT
CARS — LOCOMOTIVES
REPAIR PARTS

RELAYING RAILS

STEEL STORAGE TANKS
6000 — 8000 — 10000 gal. cap.
CLEANED AND TESTED

THE PURDY COMPANY
122 S. Michigan Avenue Chicago 3, Illinois

GASOLINE - DIESEL
OHIO LOCOMOTIVE CRANES
STEAM - ELECTRIC
The OHIO LOCOMOTIVE CRANE Co. BUCYRUS OHIO



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SIDE
BEARINGS
Manufactured by
A. Stucki Co.
Oliver Bldg., Pittsburgh, Pa.
Canadian Representatives
The Holden Co., Ltd.
Montreal, Can.

A Working Team that can do the Job

JUSTRITE

Give Your Men Fine Dependable Light With This Justrite Inspector's Lantern No. 2111

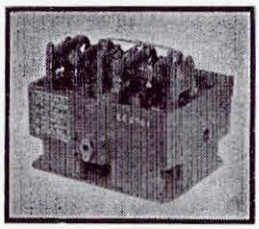
Model No. 2111

When you provide this Justrite single-bulb type Inspector's Lantern you're giving your men the best possible light—light that helps them do their job "just right". This Justrite Inspector's Lantern is sturdily built, with space for spare bulbs and big wood grip handle for easy carrying. It's equipped with the famous new Justrite Honeycomb Lens—throws a circle of clear even light 3 ft. in diameter at 8-ft. distance. See your distributor—today!

Ask about other Justrite safety products.

JUSTRITE MANUFACTURING COMPANY
2063 N. Southport Ave., Dept. D-1, Chicago 14, Ill.

"MOONEY" QUAD-VALVE CYLINDER HEADS



FOR RAIL CAR ENGINES

Designed to fit—

Models 120, 146 and 148 Winton Engines

Models 660 and 860 Brill Engines

"MOONEY" QUAD-VALVE CYLINDER HEADS—

complete with Valve-Motion — insure

- Increased Power
- Better Fuel Economy
- More Mileage per Overhaul
- Decreased Maintenance Cost
- Better Thermal Efficiency
- Forced Water Circulation directly against and around valve seats

Manufactured by

AUTO ENGINE WORKS (INC.)
349 North Hamline Ave. Saint Paul, Minnesota

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STEEL *in stock at* **RYERSON**

● Ryerson has the steel you need ready for immediate shipment. Eleven convenient Ryerson plants stock more than ten thousand kinds, shapes and sizes of steel and allied products. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City, Pittsburgh.

Principal Products Include:

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Stay Bolt Iron	Alloys	Mechanical Tubing	Reinforcing
Plates	Cold Finished Steel	Boiler Tubes	Nails, Rivets, etc.
Sheets	Tool Steel	Welding Rod	Machinery

"WHY" *Ride-Control?*

There seems to be no doubt about the need for smooth-riding freight car trucks. But if proof is required, the chart below gives these reasons in *cold, hard dollars.* During 1945, unlocated and concealed lading damage amounted to well over $11,000,000 in these *three* categories alone.

As far back as 1939, tests by A.A.R. indicated the advisability of truck improvement, and established the fact that easy-riding qualities require *long-travel* springs, *properly* controlled. Since then, American Steel Foundries has invested more than a half-million dollars in developing, testing, and *perfecting* these principles in the modern Ride-Control Truck—with these results!

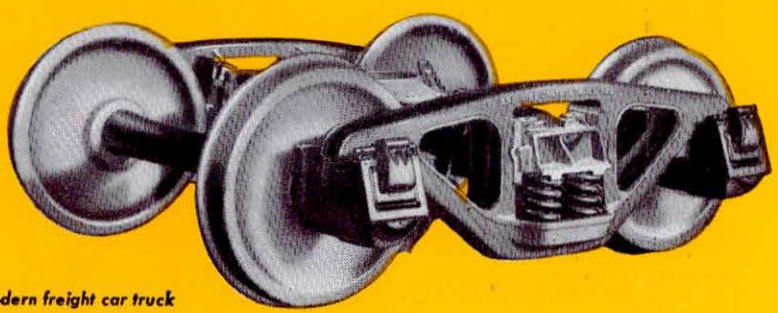
In less than three years, "Ride-Control" has grown from a name to nation-wide acceptance because Ride-Control Trucks ride *easily,* perform *smoothly,* at all loads, *all speeds*—because Ride-Control Trucks are easier on lading, rolling stock, and roadbed. Users have reordered as many as *ten* times.

Unlocated and concealed damage as reported by A.A.R. Committee on Prevention of Loss and Damage, calendar year 1945.

·S·F *Ride-Control* TRUCK

NO SPRING PLATES—NO SPRING PLANKS

ONG SPRING TRAVEL • CONSTANT FRICTION CONTROL



Already more than 36,000 car sets of this modern freight car truck are in service or on order for 54 railroads and private car owners.

AMERICAN STEEL FOUNDRIES

MINT-MARK OF ⬡ FINE CAST STEEL

PHOTOGRAPH COURTESY G. M. & O. R. R.

without a failure due to BEARINGS!

That's the latest record of the New Orleans-St. Louis "Rebel" Diesel-Electric Streamlined Trains of the Gulf, Mobile and Ohio Railroad Co., through ~~September, 1944~~. This information comes direct from the railroad company which very kindly has granted us permission to publicize it.

There are two of these trains in regular service on the New Orleans-St. Louis run, both equipped with "Quad" type Timken Roller Bearings on all axles.

The photograph shows one of the trains leaving New Orleans.

The performance of Timken Bearings on American high-speed streamlined trains, all types of locomotives and passenger cars has been most outstanding. This performance has become part and parcel of the development that has made — and is keeping — American railroads the world's finest and most efficient. The Timken Roller Bearing Company, Canton 6, Ohio.

April 30, 1946

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
RAILWAY ROLLER BEARINGS

This advertisement originally appeared in the December 9th, 1944 issue of Railway Age.